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AGRICULTURE

1982 AGRICULTURAL YEARBOOK



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CHINA REPORT
AGRICULTURE
1982 AGRICULTURAL YEARBOOK

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[Selections from the 1982 China Agricultural Yearbook. Only the articles and tables listed below under "Contents" have been translated by JPRS]

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Farmland Beside Tai Hu. Photograph by Cao Yuquan [2580 3768 3123]

Terraced Mountain Fields. Photograph by Gao Xiufeng [7559 4423 1496]

Guangxi Paddy Rice.

Provided by China Photo Agency

Qingyan Shan Natural Preserve in Western Hunan. Photographed by Ning Guangqian [1380 0342 0467]

Tian Shan Forest Area. Photographed by Su Maochun [5685 5399 2504]

Man-Made Chinese Juniper Forest at Taoyuan, Hunan. Photographed by Ding Weiguo [0002 5898 0948]

Boai Farmland Shelter Forest, Henan. Photographed by Li Weiquan [2621 0251 2938]

Plaiting of Bamboo Articles. Photograph by Luo Xiaoyun [5012 1420 7301]

Nei Monggol Grasslands. Photographed by Li Deshuan [2621 1795 2165]

Artificially Bred Beche-d-mer. Provided by China Pictorial Press Mechanized Fish Rearing Pond. Photographed by Liu Zhongyang [2692 0022 1135]

Development of the Sanjiang Plain. Photographed by Cao Mingyi [7559 2494 5030]

Building of Floodgates on Upper Segment of Weishan Hu. Provided by Xinhuashe Huashan Meteorology Station. Photographed by Cheng Dalin [2052 1129 2651]

STATISTICS ON BASIC SITUATION IN NATIONAL ECONOMY

[Original source pp 7-95]

[Text] Basic National Economic Statistics (1981)

项 目 Particulars	单 位 Units	1981年	1980年	1981 increase over 1980	
				Absolute	%
POPULATION	10,000 people	99.622	98.255	1.367	1.4
Gross output value of agriculture and industry (Based on 1980 constant prices)	100 million yuan	7.480			4.5
National income (preliminary calculations) (Based on 1980 constant prices)	"	3.888			3
AGRICULTURE					
Gross output value of agriculture (Based on 1980 constant prices)	"	2.312			5.7
Including:					
Gross output value of farming	"	1.489			5.3
Gross output value of forestry	"	95			4
Gross output value of animal husbandry & fishing industry	"	397			6
Gross output value of sideline occupations (including gross output value of production team- and production brigade-operated industries)	"	321			6.8
Output of major agricultural products	"	275			9.3
Grain	10,000 tons	32.502.0	32.052	450	1.4
Including: paddy	"	14.320.5	13.925.5	395	2.8
wheat	"	5.849.0	5.415.5	433.5	8.0
tubers	"	2.499.5	2.784.5	-285	-10.2
soybeans	"	924.5	788	136.5	17.3
Cotton	"	296.8	270.7	26.1	9.6
Oil-bearing crops	"	1.020.5	789.1	231.4	32.7
Including: peanuts	"	382.6	360	22.6	6.3
rapeseed	"	406.5	238.4	168.1	70.5
sesame	"	51.9	25.9	25.1	96.9
Sugarcane	"	2.988.8	2.280.7	688.1	30.1
Sugarbeet	"	636.0	630.5	5.5	0.9
Jute and ambari hemp	"	126.0	109.8	16.2	14.8
Silkworm cocoons	"	31.1	32.6	-1.5	-4.6
Tea	"	34.3	30.4	3.9	12.8
Afforested area	10,000 hectares	411	455.2	-44.2	-9.7

Particulars	Unit	1981年	1980年	1981 increase over 1980	
				Absolute	%
Output of forest products					
Rubber	10,000	12.8	11.3	1.5	13.3
Raw lacquer	" tons	0.30	0.25	0.05	20.0
Tung oil seeds	"	36	30.3	5.7	18.8
Tea oil seeds	"	65.4	49.0	16.4	33.5
Output of major livestock products & livestock nos.					
Gross output of pork, beef, mutton, & goat	"	1,260.9	1,205.4	55.5	4.6
Including: pork	"	1,188.4	1,134.1	54.3	4.8
beef	"	24.9	26.0	-2	-7.4
mutton & goat	"	47.6	44.6	3.1	7.0
Milk output	"	129.1	114.1	15	13.1
Wool and goat hair output	"	10.9	17.6	1.3	7.4
Hogs removed from inventory	D,000	19,494.7	19,060.7	-366	-1.8
Hogs in inventory at end of year	" head	29,370.2	30,513.1	-1,172.9	-3.8
Large livestock animals in inventory at end of yr.	"	9,764.1	9,524.6	239.5	2.5
Goats in inventory at end of year	"	10,773.9	10,731.1	41.9	0.2
Aquatic products output	D,000 tons	460.5	449.7	10.8	2.4
Including: freshwater	"	137	124	13	10.5
marine	"	323	326	-3	-0.9
Profits from state farm and land reclamation system	(a)	2			
Large and medium size farm tractors	10,000 units	79.2	74.5	4.7	6.3
Small tractors and hand tractors	"	203.7	187.4	16.3	8.7
Farm trucks	"	17.5	13.9	3.7	26.8
Powered drainage and irrigation machinery	(b)	7,688.3	7,664.5	23.8	0.3
Quantity of farm fertilizer used for the year	10,000 T	1,334.9	1,269.4	65.5	5.2
Rural electricity use	(c)	370	321	49	15.3
INDUSTRY					
Gross output value of industry					
(Based on constant 1980 prices)	(a)	5,178			4.1
Gross output value of light industry					
(Based on constant 1980 prices)	(a)	2,663			14.1
Output of major light industrial products					
Yarn	10,000 Tons	317	293	24	8.2
Cloth	(d)	142.7	134.7	8	5.9
Chemical fibers	D,000 tons	52.7	45	7.7	17.1
Including: synthetics	"	30.5	31.4	7.1	23.6
Woolens	(d)	1.13	1.01	0.12	11.9
Silk	D,000 tons	3.74	3.54	0.2	5.6
Knitgoods	(d)	8.35	7.59	0.76	10.0
Gunny sacks (exclusive of polyolefin bags)	100 million	4.29	4.10	0.19	4.6
Machine-made paper and paperboard	10,000 tons	540	535	5	0.9

Key: (a) 100 million yuan (d) 100 million meters
(b) 10,000 horsepower
(c) 100 million kwh

项 目 Particulars	单 位 Units	1981年	1980年	1981 increase over 1980	
				Absolute	%
Sugar	10,000 tons	316.6	257	59.6	23.2
Beer	"	91	68.8	22.2	32.3
Crude salt	"	1.832	1.728	104	6.0
Pharmaceuticals	"	3.73	4.01	-0.28	-7.0
Synthetic detergents	"	47.8	39.3	8.5	21.6
Bicycles	10 000 units	1.754	1.302	452	34.7
Sewing machines	"	1.039	768	271	35.3
Wristwatches	"	2.872	2.216	656	29.6
Television sets	"	539.4	249.2	290.2	1.2倍
Radios	"	4.057	3.004	1.053	35.1
Cameras	"	62.3	37.3	25	67.0
Household washing machines	"	128.1	24.5	103.6	4.2倍
Household refrigerators	"	5.56	4.00	0.66	13.5
Electric fans	"	1.060	724	326	45.0
Light bulbs	100 mil. units	8.7	9.5	0.2	2.1
Gross output value of heavy industry (Based on 1980 constant prices)	100 mil. yuan	2.515			-4.7
Output of important heavy industry products	100 mil. tons	8.2	6.2	0	10%
Crude coal	"	10.122	10.585	-473	-4.5
Crude oil	100 mil. m ³	127.4	142.7	-15.3	-10.7
Natural gas	100 mil. kwh	3.093	3.096	87	2.9
Electric power	"	655.5	582.0	73.5	12.6
Including: hydropower					
Steel products	10 000 tons	2.670	2.716	-46	-1.7
Pig iron	"	3.417	3.802	-385	-10.1
Steel	"	3.560	3.712	-152	-4.1
Coke (machine made)	"	3.172	3.405	-233	-6.8
Lumber	10,000 m ³	4.942.3	5.359.5	-417.2	-7.8
Cement	10 000 tons	8.288.7	7.985.7	304	3.8
Plate glass	10,000 standard cases	3.064	2.771	293	10.6
Sulfuric acid	10 000 tons	781	764	17	2.1
Soda ash	"	165.2	161.3	3.9	2.4
Caustic soda	"	192.3	192.3	0	10%
Agricultural chemical fertilizer	"	1.239	1.232	7	0.6
Including: nitrogen	"	306	999	-13	-1.4
phosphate	"	251	231	20	8.7
potash	"	2	2	0	10%
Chemical pesticides	"	48.4	53.7	-5.3	-9.7
Ethylene	"	50	48	1	3.0
Plastic	"	91.6	89.8	1.8	2.0
Calcium carbide (converted amount)	"	151	152	-1	-0.4

Particulars	Units	1981年	1980年	1981 increase over 1980	
				Absolute	%
Tires	10,000	729	1,146	-417	-36.4
Mining equipment	10 000 tons	11.6	16.3	-4.8	-29.3
Power generating equipment	10 000 kw	139.5	419.3	-279.8	-69.7
Metal cutting machine tools	10 000 units	10.3	13.4	-3.1	-23.1
Motor vehicles	"	17.6	22.2	-4.6	-20.7
Tractors	"	5.3	9.8	-4.5	-45.9
Hand tractors	"	19.9	21.8	-1.9	-8.7
Internal combustion engines (marketable)	10 000 hp.	2,004	2,539	-535	-21.1
Railroad locomotives	Units	398	512	-114	-22.3
Railroad passenger cars	"	1,150	1,002	157	15.7
Railroad freight cars	"	8,779	10,571	-1,792	-17.0
Steel civilian ships	10 000 tons	91.6	81.8	9.8	12.0
Labor productivity rate for all personnel in state-owned enterprises (Based on 1980 constant prices)		11,063			-1.8
CAPITAL CONSTRUCTION					
Capital construction fixed assets turned over to and used by state-owned units	100 mil. yuan	371	427	-56	-13.1
Utilization rate for fixed assets turned over	%	86.7	79.2		
Area of housing construction completed during year	(a)	12,609	14,500	-1,900	-13.1
Capital construction newly added production capacity for year					
Raw coal mined	10 000 tons	1,373	829	544	65.6
Crude oil extracted	" 3	519	575	-56	-9.7
Natural gas extracted	100 mil. m	6.2	8.8	-2.6	-29.5
Power generating capacity	10 000 kwh	284	297	-23	-8.0
Chemical fibers	10 000 tons	6.7	8	-0.7	-11.7
Cotton textile spindles	10,000 spindles	51	76.1	-25.1	-33.0
Sugar	10 000 tons	17.4	11.3	6.1	54.0
Crude salt	"	32.4			
Machine-made paper and paperboard	10 000 tons	4.4			
Iron ore mined	"	475	274	201	73.4
Chemical fertilizer	"	32.3	27.9	4.4	15.8
Cement	" 3	154	288	-134	-46.5
Timber	10 000 m	29.7			
Cargo handling capacity of newly built and expanded ports	10,000 tons	236	813	-577	-80.0
Completion rate, going into production, large & medium size projects	%	10.6	8.3		
Total state-owned unit capital construction finished		428	539	-111	-20.6
Including:					
State budgeted investment	100 mil. yuan	308	281	-73	-26
Large & medium size projects halted or slowed during year	Units	151			
Large & medium size projects under construction at year end	"	663	904	-241	-26.7
Depth of exploratory geological drilling done for year	10,000 m	884.3	1,219	-364.7	-29.2

Key: (a) 10,000 square meters

Particulars	Unit	1981年	1980年	1981 increase over 1980	
				Absolute	%
TRANSPORTATION, POSTS AND TELECOMMUNICATIONS					
Central government-run railway trackage	10 000 kms	5.62	4.99	0.63	0.5
Highway distance	"	89.7	88.8	0.9	1
Civil aviation routes (including duplicated sections on different routes)	"	34.8	31.1	3.7	12.0
Inland waterways shipping	"	10.87	10.85	0.02	0.1
Freight turnover by all forms of transportation	(a)	12.143	12.028	117	1
Including:					
Railroads	(a)	5.712	5.717	-5	-0.1
Shipping	(a)	5.150	5.053	97	1.9
Highways	(a)	780	764	16	2.1
Air	(a)	1.7	1.4	0.3	21.4
Oil and gas pipelines	(a)	499	491	8	1.6
Cargo handling capacity of major coastal ports	10 000 tons	21.931	21.731	200	0.9
Passenger turnover volume for all forms of transportation	(b)	2.500	2.281	219	9.6
Including:					
Railroads	(b)	1.473	1.363	90	6.5
Shipping	(b)	138	129	9	7
Highways	(b)	839	729	110	15.1
Air	(b)	50	40	10	25
Posts & telecommunications business volume					
(Figured at constant 1980 prices)	100 mil. yuan	19.53			5.1
DOMESTIC BUSINESS					
Net procurement of marketable goods by state-owned businesses	"	2.469	2.263	206	9.1
Including:					
Total purchases of agricultural sideline products	"	764.7	677.0	87.7	13
Total purchases of industrial products	"	1,685.1	1,567.6	117.5	7.5
Major commodities purchased					
Increase in grain purchases					10.8
Increase in edible vegetable oil purchases					43.5
Increase in cotton					10.1
Increase in flue-cured tobacco					78.7
Increase in jute & ambari hemp					12.1
Increase in edible sugar					14.6
Increase in all kinds of piece goods					2.8
Increase in knit underwear					17.4
Increase in bicycles, radios, sewing machines, wrist-watches, TVs, and tape recorders					23-30
State-owned business procurement of fattened hogs					-6.7
State-owned business procurement of fresh eggs					-7.6
Gross retail sales of social commodities	100 mil. yuan	2.350	2.140	210	9.8

Key: (a) 100 million ton kms
(b) 100 million passenger kms

Particulars	Units	1981年	1980年	1981 increase over 1980	
				Absolute	%
Retail sales of major consumer goods					
Grain	10 000 tons	6.167	5.497	670	11.1
Edible vegetable oil	"	172.5	126.0	46.5	36.9
Pork	"	710.0	104.5	5.5	1
Sugar	"	305.0	303.5		0.7
Piece goods	100 mil. m.	102.5	98.4		4.2
Knit underwear	10 000 units	107.583	96.676		11.3
Woolens	10 000 m.	17.000	16.221		10.5
Radios	10 000 units	3.074.0	2.722.0		13
Wristwatches	"	2.000.0	2.534.0		14.1
Bicycles	"	1.582.0	1.160.0		33.4
Sewing Machines	"	820.0	605.0		39.3
Tape recorders	"				42.2
Televisions	"	635.0	641.0		74.5
Gross amount of marketable goods in state-owned business storage					10.8
Gross index of nationwide agricultural sideline product procurement					8.9
Retail price level (Average annual figure including state-owned enterprise list prices, negotiated prices, and country fair prices)					2.4
Including:					
Rise in urban retail prices					2.7
Rise in rural retail prices					2.1
Rise in consumer goods prices					2.6
Foods					2.7
Items used in daily life					1.3
Items used for culture or amusement					0.4
Medicine					0.2
Fuel					0.0
Clothing					-0.4
Retail prices of agricultural means of production					1.7
FOREIGN TRADE AND TOURISM					
Volume of exports and imports	100 mil. yuan	735.3	570	165.3	29
Including: Volume of exports	"	367.6	271.2	96.4	35.5
Volume of imports	"	367.7	298.8	68.9	23.1
Export Goods					
Percentage of industrial manufactures including machinery, light and textile industry goods, metals	%	53.4	48.7		
Percentage of primary products such as agricultural products, foods, mine products, and raw materials for light industry and textile industry	%	46.6	51.3		
Import Goods					
Percentage of industrial manufactures	%	63.4	66.1		

Particulars	Unit	1981年	1980年	1981 increase over 1980	
				Absolute	%
Primary products	%	36.6	34.9		
No. of foreigners, overseas Chinese and compatriots from Hong Kong, Macao, and Taiwan province including foreign tourists	10,000	776.7	570.3	206.4	36.2
Foreign exchange earnings from tourism converted into renminbi	10,000	67.5	52.9	14.6	27.8
Foreign exchange earnings from tourism converted into renminbi	100 mil. yuan	13.8	9.2	4.6	49.7
SCIENTIFIC & TECHNICAL, EDUCATIONAL & CULTURAL					
Natural science & technology personnel in state-owned units	10,000 people	571.4	529.6	41.8	7.9
Major scientific & technical results achieved	Projects	3,100	2,600	500	19.2
Including state-approved innovations and inventions	Projects	120	107	13	12.1
Students in school					
Institutions of higher learning	10,000 students	127.9	114.4	13.5	11.8
Technical secondary schools	"	106.9	124.3	-17.4	-14
Ordinary secondary schools	"	4,859.6	5,508.1	-648.5	-11.8
Agricultural & vocational secondary schools	"	48.1	45.4	2.7	5.9
Technical schools	"	67.9	68	-0.1	-0.1
Primary schools	"	14,333	14,627	-294	-2
Children being educated in kindergartens	"	1,056.2	1,150.8	-94.6	-8.2
Higher industrial and agricultural education	"	134.6	155.4	-20.8	-13.4
Secondary industrial & agricultural education	"	820.7	804.5	16.2	2.0
Number of entertainment movies made	Units	105	82	23	28
New films of all kinds released (full-length films)	Units	143	116	27	23.3
Number of projection units of all kinds	10,000 units	13	12.5	0.5	4
Artistic troupes	Units	3,483	3,533	-50	-1.4
Cultural palaces	"	2,893	2,912	-19	-0.7
Public libraries	"	1,787	1,732	55	3.2
Museums	"	383	365	18	4.9
Broadcasting stations	"	114	106	8	7.5
Transmitting & relay stations	"	482	484	-2	-0.4
Central television stations	"	42	38	4	10.5
Transmitting & relay TV stations over 1 kw	"	265	246	19	7.7
No. of national & provincial newspapers published	100 mil. copies	140.7	140.4	0.3	0.2
Magazines of all kinds published	"	14.8	11.2	3.6	30.4
Maps published	100 mil. vol. (or sheets)	55.8	45.9	9.9	21.6
HEALTH AND PHYSICAL EDUCATION					
Number of hospital beds	10,000 beds	201.7	198.2	3.5	1.8
Number of medical technicians	10,000	301.1	278.8	21.3	7.6
Including:					
Medical doctors	10,000	124.4	115.3	9.1	7.9
Doctors skilled in Chinese medicine	10,000	29	26.2	2.8	10.7
Doctors skilled in both Chinese and Western medicine	10,000	0.2			
Doctors skilled in Western medicine	10,000	51.6	44.7	6.9	15.4
Paramedics		43.6	44.4	-0.8	-1.8

项 目 Particulars	单 位 Unit	1981年	1980年	1981 increase over 1980	
				Absolute	%
Registered & practical nurses	10,000	52.5	46.6	5.9	12.8
World champions	Individuals	25	3	22	
Broken or bettered world records	Events	8	7	1	
Broken domestic records	Events	24	120	4	
Competition above county level 10 000 Events	Events	2.3	2.3	0	10%
Meeting "national physical fitness standards"	10,000 people	1,014	856	158	18.5
PEOPLE'S LIVELIHOOD					
Average per capita peasant income	Yuan	223	191	32	16.8
(including income received from agriculture, sideline occupations and redistributions)					
Urban and town placement of young people & others awaiting employment, & graduates of institutions of higher education and technical secondary schools	10,000	820	900	-80	-8.9
Number of staff members & workers in state-owned and in city and town collectively owned units at year's end	in 10,000	10,840	10,444	496	4.7
Including:					
Staff and workers in state-owned units	10,000	8,372	8,019	353	4.4
Staff & workers in collective urban and town units	10,000	2,568	2,425	143	5.9
No. of self-employed in cities and towns at year's end	10,000	113	81	32	39.5
Total wages of staff and workers	100 mil. yuan	820	773	47	6.1
Including:					
State-owned units	"	660	628	32	5.1
City and town collectively owned units	"	160	145	15	10.3
Average cash wage of staff members and workers	Yuan	772	762	10	1.3
In state-owned units	"	812	803	9	1.1
In city & town collectively owned units	"	642	624	18	2.9
Average per capita amount of staff member & worker family disposable income	Yuan	463		19	4.3
Year-end urban & rural savings deposits (a)		523.7	399.5	124.2	31 (a) 100 million yuan)
Area of new housing built in urban & town state-owned and in collectively-owned units	10,000 m ²	9,700	9,190	510	5.5
Rural commune member housing construction (b)		6	5	1	20 (b) 100 million m ²

Note:

- (1) Figures in this table do not include figures from Taiwan Province.
- (2) National income for 1980 has been changed from the former 363 billion yuan to 366 billion yuan.
- (3) Gross output value of agriculture for 1981 figures in terms of constant 1970 prices was 172 billion yuan.
- (4) Grain output for 1980 has been changed from the former 318.22 million tons to 320.52 million tons.
- (5) Tubers are converted to grain terms at a rate of 5 jin to 1 jin.
- (6) Gross output value of industry for 1981 as figured in constant 1970 prices amounted to 519.9 billion yuan, 267.5 billion yuan being the gross output value of light industry, and 252.4 billion yuan being the gross output value of heavy industry.
- (7) "Average per capita peasant income" was derived from a random sampling of 18,529 peasant households in 568 counties in 28 provinces, municipalities, and autonomous regions.
- (8) "Staff member and worker family average per capita amount of disposable income" is based on a random sampling of 8,715 staff member and worker families in 46 cities in 28 provinces, municipalities and autonomous regions.

References: 1. State Statistical Bureau, "Communique on Results of 1981 National Economic Plan Implementation."
2. State statistical Bureau, "Communique on Results of 1980 National Economic Plan Implementation."

Attachments:

T = tons
Y = yuan

1982 Economic and Social Development Plan

Particulars	Units	1982 Quotas and Indices	% Increase or Decrease in 1982 from 1981
1.			
Gross output value of agriculture	%		4
Grain	10,000 T.	33,350	2.6
2.			
Gross output value of industry	%		4
Output value of light industry	%		7
Output value of heavy industry	%		1
Yarn	10,000 T.	324	3.4
Sugar	"	320	6.7
Raw coal	"	62,500	
Crude oil	100 mil. T.	1	0
Electric power output	100 mil. kwh.	3,130	2.6
Copper	10,000 T.	3,400	- 4
Energy consumption	%		- 3
Percent of enterprise costs	%		- 2 ~ - 3
Railroad freight volume	10,000 T.	104,000	1
3.			
Gross revenues	100 mil. Y.	1,104.5	
Gross expenditures	"	1,134.5	
4.			
Total investment in fixed assets	"	630	
Gross investment in capital construction	"	380	
Funds for renewal and replacement	"	250	
5.			
Plan social commodity purchasing power	"	2,440	8
Current year social commodities good supply	"	2,380	
6.			
Enrollments in institutions of higher education	10,000 people	30	9
7.			
Number of people for whom jobs were found in cities and towns	10,000 people	560	

Source of data: "Report on Draft Plan For 1982 Economic and Social Development," Yao Yilin [1202 0181 2651, Deputy Premier, State Council, and concurrently Director, State Planning Commission.

1982 National Budget

Particulars	Units	1982 National Budget
L. Gross income	100 million yuan	1,104.5
1. Income from enterprises	100 million yuan	344.1
2. Tax receipts	100 million yuan	646
3. Other income	100 million yuan	2.4
4. Enterprise basic depreciation funds centralized in central financial institutions	100 million yuan	22
5. Treasury bonds issued	100 million yuan	40
6. Foreign loans	100 million yuan	50
2. Gross Expenditures	100 million yuan	1,134.5
1. Capital construction disbursements Including:	100 million yuan	297.3
Those directly provided for by the state	100 million yuan	186.3
Those provided for out of local financial reserves	100 million yuan	61
Foreign loans used	100 million yuan	50
2. Enterprise funds for tapping of potential and renovation, and expenditures for test manufacturing of new items	100 million yuan	54.2
3. Increased disbursements of circulating funds for enterprises	100 million yuan	24
4. Assistance to rural people's communes and expenditures for various agricultural activities	100 million yuan	76.1
5. Expenditures for cultural, educational, health, and scientific activities	100 million yuan	180
6. National defense strategy expenditures	100 million yuan	178.7
7. Administration expenses	100 million yuan	78
8. Total reserve funds	100 million yuan	27
Including: Central government	100 million yuan	10
Local government	100 million yuan	17
9. Interest paid on foreign loans	100 million yuan	35.5

References: Minister of Finance Wang Bingqian [3769 0014 0051] (Report on 1982 Draft Budget)

Statistics on the Agricultural Economy

(1981)

Agricultural Production Organizations Nationwide Rural People's Commune Organization

	单位 Units	1981年	1980年	Increase or decrease 1981年比1980年增减 in 1981 from 1980
1. Number of Rural people's communes 一. 农村人民公社个数	Units	54,366	54,183	183
Number of production brigades 生产大队个数	Units	719,022	709,820	9,202
Number of production teams 生产队个数	10,000 Units	600.4	566.2	34.2
2. Commune accounting 二. 公社核算	Units	31	41	-10
Production brigade accounting 生产大队核算	Units	35,754	42,429	-6,675
Production team accounting 生产队核算	10,000	589.9	538.9	51
3. Number of rural people's commune households 三. 农村人民公社户数	10,000	18,016.1	17,672.7	343.4
Rural people's commune population 农村人民公社人口	10,000 people	81,880.7	81,096.0	784.7
Rural people's commune workers 农村人民公社劳动力	10,000	32,672.3	31,835.9	836.4
Including: Workforce engaged in farm- 其中, 农林牧副渔劳动力 ing, forestry, animal husbandry, and fishing Social labor workforce 社办工业劳动力	10,000	30,677.6	29,808.4	869.2
	10,000	882.7	916.3	-33.6

Provided by Planning Bureau, Ministry of Agriculture

Organization of Rural People's Communes in All Provinces, Municipalities, and Autonomous Regions (1)

地 区 (a)	公社个数 (b) (个)	生产大队个数 (c) (个)	生产队个数 (d) (万个)	(e) 基本核算单位数		
				公社核算 (f) (个)	生产大队核算 (g) (个)	生产队核算 (h) (万个)
National Total 全国总计	34,368	719,822	680.4	31	35,754	589.9
Beijing 北 京	263	4,929	1.3	4	1,488	1.9
Tianjin 天 津	219	3,883	1.8	-	385	1.7
Hebei 河 北	3,847	59,339	29.2	1	3,976	29.6
Shanxi 山 西	1,890	31,664	12.3	-	7,141	11.2
Nei Monggol 内 蒙 古	1,381	12,585	7.2	-	1,876	6.9
Liaoning 辽 宁	1,138	15,887	10.2	8	587	10.1
Jilin 吉 林	932	10,146	7.9	-	171	7.6
Heilongjiang 黑 龙 江	1,009	14,956	6.3	-	2,153	6.2
Shanghai 上 海	206	2,900	3.9	1	84	2.9
Jiangsu 江 苏	1,929	35,683	34.4	1	621	34.1
Zhejiang 浙 江	3,066	42,532	34.4	4	2,489	33.7
Anhui 安 徽	3,318	39,687	40.9	-	183	40.7
Fujian 福 建	869	14,323	17.1	-	671	16.9
Jiangxi 江 西	1,635	23,274	25.1	-	43	25.1
Shandong 山 东	2,194	86,143	41.9	-	7,881	41.9
Henan 河 南	2,826	45,443	42.7	-	260	42.7
Hubei 湖 北	1,269	31,634	27.5	-	1,611	25.9
Hunan 湖 南	3,350	47,183	51.1	-	120	50.9
Guangdong 广 东	1,942	27,687	39.3	1	790	38.7
Guangxi 广 西	973	13,884	27.7	-	35	27.6
Sichuan 四 川	9,543	75,572	61.5	2	1,181	61.1
Guizhou 贵 州	3,818	25,429	23.3	-	19	23.3
Yunnan 云 南	1,409	13,796	19.5	-	17	19.3
Xizang 西 藏	2,862	-	1.9	-	-	1.9
Shaanxi 陕 西	2,523	30,645	16.1	-	1,895	16.0
Gansu 甘 肃	1,465	16,750	11.3	11	85	11.2
Qinghai 青 海	418	3,749	2.1	-	86	2.1
Ningxia 宁 夏	253	2,385	1.9	-	28	1.9
Xinjiang 新 疆	634	7,227	3.4	-	783	3.3

Key: (a) Place (f) Commune Accounting
 (b) Number of Communes (g) Brigade Accounting
 (c) Number of Production Brigades (h) Production Team Accounting
 (d) Number of Production Teams
 (e) Number of Basic Accounting Units

Organization of Rural People's Communes in All Provinces, Municipalities, and Autonomous Regions (II)

地 区 (a)	公社户数 (b) (万户)	公社人口 (c) (万人)	公社劳动力 (d) (万人)	其 中 (e)	
				农村牧区 (f) 劳动力	社办工业 (g) 劳动力
National Total 全国总计	18,816.2	81,880.7	32,672.3	30,677.6	882.7
Beijing 北 京	90.0	377.0	172.0	161.4	13.4
Tianjin 天 津	94.7	358.0	167.5	161.1	7.3
Hebei 河 北	1,098.0	4,590.0	1,824.1	1,696.0	61.0
Shanxi 山 西	903.0	2,648.3	711.0	655.0	20.0
Nei Monggol 内 蒙 古	298.1	1,333.1	456.0	429.0	7.0
Liaoning 辽 宁	616.3	2,293.1	682.0	590.0	54.1
Jilin 吉 林	310.1	1,680.4	352.5	310.7	13.7
Heilongjiang 黑 龙 江	300.0	1,009.0	430.1	394.0	15.0
Shanghai 上 海	129.6	434.0	205.2	223.0	31.4
Jiangsu 江 苏	1,276.6	5,007.0	2,373.3	1,963.3	173.7
Zhejiang 浙 江	828.3	3,351.2	1,506.3	1,440.7	104.2
Anhui 安 徽	925.0	4,357.2	1,775.0	1,671.0	72.0
Fujian 福 建	432.2	2,061.0	740.0	690.0	14.1
Jiangxi 江 西	523.1	2,720.0	937.1	890.0	19.3
Shandong 山 东	1,580.2	6,612.1	2,704.0	2,522.5	84.4
Henan 河 南	1,395.6	6,672.9	2,575.0	2,456.0	61.0
Hubei 湖 北	810.0	3,877.1	1,529.3	1,432.0	30.0
Hunan 湖 南	1,062.1	4,690.0	2,034.3	1,945.5	33.3
Guangdong 广 东	986.3	4,905.4	2,004.0	1,870.9	55.0
Guangxi 广 西	605.2	3,190.2	1,345.2	1,313.7	10.6
Sichuan 四 川	2,007.5	8,716.2	3,820.4	3,601.2	67.1
Guizhou 贵 州	491.0	2,487.5	964.0	940.3	4.2
Yunnan 云 南	529.4	2,841.0	1,215.7	1,222.0	0.7
Xizang 西 藏	31.0	157.8	83.1	82.0	0.4
Shaanxi 陕 西	1,117.0	2,411.0	910.5	864.5	10.1
Gansu 甘 肃	3	1,630.1	580.7	572.4	4.3
Qinghai 青 海	48.7	276.0	100.0	100.5	0.0
Ningxia 宁 夏	83.0	295.0	100.0	97.0	1.3
Xinjiang 新 疆	100.1	713.1	263.0	253.0	0.1

Provided by Planning Bureau, Ministry of Agriculture

Key: (a) Place
 (b) Commune Households (10,000 households)
 (c) Commune Population (10,000 people)
 (d) Commune Labor Force (10,000 people)
 (e) Including

(f) Farming, forestry, animal husbandry, sideline production and fishery labor force
 (g) Commune-run industry labor force

State-Owned Forest Farms in Each Province, Municipality, and Autonomous Region

(a)	(b)	(c)			(d)		(e)	(f)		(g)	(h)	
		(1)	(2)	(3)	(4)	(5)		(6)	(7)		(8)	(9)
		Total	Afforested	Farms being worked	Other farms	Operating area	Including forested area	Timber reserves	Number of employees	Permanent employees	At year-end	At year-end
National Total	全国总计	3,967	2,288	1,471	100	75,146.5	34,522.9	105,823.8	510,679	362,530		
Beijing	北京	26	26	-	-	62.8	24.2	51.0	1,867	1,543		
Tianjin	天津	2	1	-	1	3.7	2.1	5.7	64	27		
Hebei	河北	159	115	44	-	1,234.9	732.1	1,309.5	11,819	7,808		
Shanxi	山西	139	139	-	-	1,631.8	796.8	847.4	8,983	5,131		
Nei Monggol	内蒙古	294	139	113	43	17,643.7	7,290.5	15,337.8	33,515	22,161		
Liaoning	辽宁	168	81	85	2	1,211.6	824.9	2,731.4	19,263	11,787		
Jilin	吉林	314	152	182	-	9,405.2	4,581.8	21,213.9	47,949	29,306		
Heilongjiang	黑龙江	341	48	293	2	11,283.8	5,815.8	29,584.4	68,949	35,896		
Shanghai	上海	7	6	-	1	1.4	1.1	9.9	796	583		
Jiangsu	江苏	68	38	28	2	141.7	118.9	151.8	23,742	19,841		
Zhejiang	浙江	180	100	-	-	375.8	287.9	571.8	14,377	11,169		
Anhui	安徽	114	104	-	-	443.2	314.9	688.6	13,847	11,873		
Fujian	福建	119	119	-	-	526.3	481.2	1,198.8	17,822	18,867		
Jiangxi	江西	86	86	-	-	468.3	316.8	794.4	18,231	12,957		
Shandong	山东	146	3	143	-	253.4	175.1	219.7	12,436	9,224		
Henan	河南	87	87	28	-	685.8	415.7	872.3	11,372	9,293		
Hubei	湖北	213	203	8	4	585.8	379.4	619.7	17,821	14,252		
Hunan	湖南	172	129	34	9	1,811.2	843.9	2,849.2	29,230	23,449		
Guangdong	广东	218	154	54	-	1,342.8	949.8	2,494.8	54,357	38,000		
Guangxi	广西	153	180	45	8	1,844.8	1,199.8	3,082.8	29,436	23,417		
Sichuan	四川	253	142	183	8	3,186.4	1,783.8	11,587.3	15,983	12,841		
Guizhou	贵州	89	58	26	5	638.8	315.8	729.4	9,456	9,367		
Yunnan	云南	83	50	31	7	2,845.8	1,435.8	3,755.8	8,047	5,135		
Xizang	西藏	-	-	-	-	-	-	-	-	-		
Shaanxi	陕西	287	94	186	8	5,682.8	3,072.2	8,384.2	8,823	7,081		
Gansu	甘肃	196	96	98	2	7,887.8	1,778.1	8,978.8	14,717	9,547		
Qinghai	青海	52	8	44	-	3,572.5	257.3	1,999.8	1,184	787		
Ningxia	宁夏	31	31	8	4	573.1	71.3	235.8	3,373	2,948		
Xinjiang	新疆	84	23	29	8	1,831.8	738.5	8,968.7	8,175	7,338		

Provided by Planning Bureau, Ministry of Forestry

- Key: (a) Place (g) Operating area (10,000 mu)
 (b) Number of units (individual) (h) Including forested area
 (c) Total (i) Including: Permanent employees
 (d) Afforested farms (j) Timber reserves (10,000 m³)
 (e) Farms being worked (k) Number of employees at year-end
 (f) Other farms (individuals)

Commune- and Brigade-Run Forest Farms in Each Province, Municipality,
and Autonomous Region

地 区 (a)	单 位 数 (b) (个)	总 营 造 面 积 (万亩) (c)		平 本 实 有 劳 动 力 人 数 (f) (人)
		合 计 (d)	其 中 (e) 有 林 地 面 积	
National Total 全国总计	180,922	26,948.3	17,572.4	1,637,085
Beijing 北 京	83	56.2	41.7	1,572
Tianjin 天 津	72	13.1	7.3	475
Hebei 河 北	4,894	683.5	490.5	49,633
Shanxi 山 西	3,683	999.2	380.1	34,142
Nei Monggol 内 蒙 古	6,770	1,234.2	625.4	37,100
Liaoning 辽 宁	4,182	2,789.2	2,088.0	63,500
Jilin 吉 林	3,675	1,410.4	1,021.5	36,688
Heilongjiang 黑 龙 江	2,990	540.7	274.0	25,144
Shanghai 上 海	1	101
Jiangsu 江 苏	3,772	192.8	163.5	70,800
Zhejiang 浙 江	3,735	455.7	338.4	45,948
Anhui 安 徽	8,505	629.5	458.0	54,670
Fujian 福 建	5,157	1,060.6	1,552.3	74,683
Jiangxi 江 西	8,264	1,542.8	1,067.3	83,778
Shandong 山 东	5,364	367.0	277.8	66,050
Henan 河 南	21,301	1,120.3	700.4	185,095
Hubei 湖 北	22,385	1,721.6	974.3	191,167
Hunan 湖 南	23,061	2,701.6	1,974.6	173,650
Guangdong 广 东	19,087	2,883.7	2,257.5	169,511
Guangxi 广 西	4,228	1,600.0	894.0	31,025
Sichuan 四 川	7,337	570.8	343.6	51,556
Guizhou 贵 州	2,995	577.0	273.0	20,228
Yunnan 云 南	3,711	712.3	395.0	18,853
Xizang 西 藏	-	-	-	-
Shaanxi 陕 西	11,538	1,011.6	581.1	63,230
Gansu 甘 肃	17,574	838.3	331.8	61,092
Qinghai 青 海	1,729	95.4	46.2	7,177
Ningxia 宁 夏	722	140.1	43.3	3,858
Xinjiang 新 疆	199	82.8	41.0	6,732

Provided by Planning Bureau, Ministry of Forestry

Key: (a) Place (e) Including: Forested area
 (b) Number of Units (individual) (f) Workforce as of end of
 (c) Operating Area (10,000 mu) year (people)
 (d) Total

State Farm and Land Reclamation Farms in Each Province, Municipality and
Autonomous Region

Units: Individual farms

Place	Number of Farms
National Total	2.094
Beijing	16
Tianjin	15
Hebei	33
Shanxi	32
Nei Monggol	125
Liaoning	125
Jilin	137
Heilongjiang	95
Shanghai	29
Jiangsu	32
Zhejiang	68
Anhui	22
Fujian	123
Jiangxi	157
Shandong	18
Henan	95
Hubei	49
Hunan	87
Guangdong	140
Guangxi	49
Sichuan	141
Guizhou	41
Yunnan	35
Xizang	8
Shaanxi	19
Gansu	33
Qinghai (reclamation)	4
Qinghai (livestock)	16
Ningxia	14
Xinjiang (reclamation)	182
Xinjiang (farming)	29
Xinjiang (livestock)	121
Two tropical crop institutes	4

Provided by Planning Bureau, Ministry of State Farms and Land Reclamation

Fishing Communes and Brigades in Each Province, Municipality and Autonomous Region

(a) 地 区	(b) 渔 业 公 社 (个)		(e) 渔 业 生 产 大 队 (个)		(f) 渔 业 生 产 队 (个)	
	(c) 合 计	其 (d) 中 海 洋 渔 业	(c) 合 计	其 (d) 中 海 洋 渔 业	(c) 合 计	其 (d) 中 海 洋 渔 业
National Total	324	268	4,191	2,484	20,063	14,610
Beijing						
Tianjin	6	6	28	23	67	56
Hebei	8	8	71	71	258	258
Shanxi						
Nei Monggol					3	
Liaoning	14	14	149	149	362	362
Jilin			3		27	
Heilongjiang	1		29		16	
Shanghai	2	1	234	29	123	9
Jiangsu	26	18	779	200	2,074	329
Zhejiang	102	102	1,030	811	2,805	2,658
Anhui	14		104		631	
Fujian	29	28	410	410	8,213	8,213
Jiangxi	3		138		673	
Shandong	83	17	349	283	1,628	1,332
Henan						
Hubei	8		128		389	
Hunan	3		87		418	
Guangdong	75	70	586	468	4,398	4,024
Guangxi	7	7	67	48	663	369
Sichuan					77	
Guizhou			1		13	
Yunnan					9	
Xizang						
Shaanxi						
Gansu						
Qinghai						
Ningxia						
Xinjiang						

- Key: (a) Place
 (b) Fishing communes (individual communes)
 (c) Total
 (d) Including: Marine fishing industry
 (e) Fishing Brigades (individual brigades)
 (f) Fishing Production Teams (individual production teams)

[Table continued]

(g) 比队企业		(j) 渔业队人口(人)		(k) 渔业劳动力(人)			
企业数 (个)(h)	企业人数 (人)(i)	合计 (c)	其中(d), 海洋渔业	总计 (m)	其中(n), 直接捕捞	(l) 总计中, 海洋渔业(1)	
						总计 (o)	其中, 直接捕捞 (p)
3,336	151,600	4,062,231	3,172,999	3,293,610	1,220,017	1,261,101	852,923
-	-	-	-	4,954	1,112	-	-
31	7,794	33,304	30,579	21,362	5,062	13,501	4,383
193	4,715	77,506	77,506	59,021	29,165	30,305	17,000
33	337	-	-	1,106	11	-	-
-	-	83	-	1,101	762	-	-
103	8,700	145,104	145,104	69,620	34,970	59,294	34,970
-	-	9,285	-	10,674	3,333	-	-
10	506	10,556	-	23,791	13,316	-	-
125	6,463	40,122	7,200	21,619	15,331	4,680	4,154
648	29,730	407,406	99,896	293,106	138,295	56,139	37,447
812	32,193	749,725	604,364	310,165	197,046	230,296	179,231
173	5,000	79,750	-	34,421	19,220	-	-
-	-	1,191,046	1,191,046	430,365	215,071	426,700	215,071
31	577	109,973	-	128,150	43,923	-	-
314	13,261	200,172	210,220	195,412	127,704	117,071	83,052
-	-	-	-	26,482	6,304	-	-
111	4,187	82,353	-	90,103	15,271	-	-
29	2,254	42,440	-	824,112	23,070	-	-
636	20,004	701,657	661,043	660,314	206,954	259,150	240,172
80	4,934	81,330	57,953	80,507	32,440	46,770	29,355
-	-	3,400	-	70,367	16,346	-	-
-	-	1,000	-	30,796	863	-	-
-	-	3,700	-	12,230	9,232	-	-
-	-	-	-	4,372	225	-	-
-	-	-	-	1,023	272	-	-
-	-	4,834	-	3,600	2,155	-	-

Provided by Planning and Financial Bureau, State Aquatic Products Bureau

Key: (g) Commune and brigade enterprises (m) Grand total
(h) Number of enterprises (individual) (n) Including
(i) Number of people in enterprises (persons) direct catching
(j) Fishing brigade population (persons) (o) Sub-total
(k) Fishing industry workforce (persons)
(l) Marine fishing industry as part of grand total

State-Owned Fish Farms in Each Province, Municipality, and Autonomous Region

(a) 地 区	(b) 场 数 (个)	(e) 年 本 职 工 数 (人)					
		(f) 全 部 职 工		(g) 其 中: 固 定 职 工			
		(c) 合 计	(d) 其 中: 海 水 养 殖	(c) 合 计	(d) 其 中: 海 水 养 殖	(c) 合 计	(d) 其 中: 海 水 养 殖
National Total	全 国 总 计	921	100	88,417	16,007	71,817	12,768
Beijing	北 京	28	-	1,050	-	709	-
Tianjin	天 津	4	-	245	-	240	-
Hebei	河 北	4	-	67	-	7	-
Shanxi	山 西	13	-	176	-	109	-
Nei Monggol	内 蒙 古	22	-	4,241	-	3,406	-
Liaoning	辽 宁	11	10	4,314	4,296	4,064	4,040
Jilin	吉 林	106	-	4,134	-	3,811	-
Heilongjiang	黑 龙 江	35	-	5,803	-	5,575	-
Shanghai	上 海	5	1	622	92	505	92
Jiangsu	江 苏	74	8	11,786	1,183	8,008	885
Zhejiang	浙 江	25	13	2,782	752	2,327	596
Anhui	安 徽	78	-	4,363	-	3,113	-
Fujian	福 建	26	20	2,273	1,090	1,114	930
Jiangxi	江 西	41	-	6,294	-	5,654	-
Shandong	山 东	12	11	3,793	3,611	2,829	2,843
Henan	河 南	22	-	673	-	259	-
Hubei	湖 北	158	-	12,669	-	9,804	-
Hunan	湖 南	52	-	10,572	-	9,971	-
Guangdong	广 东	64	29	4,523	3,501	3,774	2,992
Guangxi	广 西	26	8	1,019	584	738	390
Sichuan	四 川	22	-	2,714	-	1,822	-
Guizhou	贵 州	-	-	-	-	-	-
Yunnan	云 南	12	-	457	-	453	-
Xizang	西 藏	-	-	617	-	-	-
Shaanxi	陕 西	6	-	319	-	477	-
Gansu	甘 肃	10	-	-	-	290	-
Qinghai	青 海	1	-	200	-	183	-
Ningxia	宁 夏	14	-	417	-	238	-
Xinjiang	新 疆	51	-	2,314	-	2,237	-

Provided by Planning and Financial Bureau, State Aquatic Products Bureau

- Key: (a) Place
 (b) Number of individual fish farms
 (c) Total
 (d) Including: Marine rearing
 (e) Number of staff members and workers at year's end (persons)
 (f) Total number of staff members and workers
 (g) Including: Permanent staff and workers

Commune and Brigade Enterprises in Each Province, Municipality, and Autonomous region

地 区 (a)	队企业单位数 (b) (万个)	队企业人数 (c) (万人)	队企业总收入 (d) (亿元)
National Total 合 计	133.8	2,988.6	679.4
Beijing 北 京	0.0	34.0	14.3
Tianjin 天 津	0.4	35.0	11.1
Hebei 河 北	10.0	175.2	35.0
Shanxi 山 西	0.9	60.7	17.2
Nei Monggol 内 蒙 古	1.3	21.4	4.0
Liaoning 辽 宁	3.2	110.7	20.3
Jilin 吉 林	1.7	20.2	9.0
Heilongjiang 黑 龙 江	2.1	81.4	11.5
Shanghai 上 海	0.6	77.0	26.2
Jiangsu 江 苏	7.3	410.4	124.3
Zhejiang 浙 江	0.1	254.4	30.3
Anhui 安 徽	4.2	87.7	12.0
Fujian 福 建	4.3	121.0	10.0
Jiangxi 江 西	4.3	79.5	15.0
Shandong 山 东	10.4	350.7	65.0
Henan 河 南	0.1	152.3	20.5
Hubei 湖 北	10.7	104.5	24.4
Hunan 湖 南	11.4	162.7	31.7
Guangdong 广 东	0.7	204.3	53.4
Guangxi 广 西	2.7	51.1	0.0
Sichuan 四 川	11.0	100.1	20.4
Guizhou 贵 州	1.4	17.0	2.4
Yunnan 云 南	1.0	37.3	0.4
Xizang 西 藏			
Shaanxi 陕 西	3.0	56.7	9.0
Gansu 甘 肃	1.5	20.5	3.3
Qinghai 青 海	0.3	3.0	0.0
Ningxia 宁 夏	0.5	4.0	0.0
Xinjiang 新 疆	0.0	10.0	2.1

Provided by People Commune Enterprises Administration, Ministry of Agriculture

- Key:** (a) Place
 (b) Number of Commune Entrepreneurial Units (10,000)
 (c) Number of People in Commune and Brigade Enterprises (10,000 people)
 (d) Commune and Brigade Enterprises Gross Income (100 million yuan)

**Farm Machinery Stations in the Commune System of Each Province, Municipality,
and Autonomous Region**

地 区		公社农具管理站数	国营农具站数	公社农具站数	大队农具队(站)数
(a)		(b) (个)	(c) (个)	(d) (个)	(e) (个)
National Total	全国总计	38,518	1,739	32,936	229,888
Beijing	北京市	264	8	254	1,118
Tianjin	天津市	217	5	160	1,376
Hebei	河北省	2,561	1,113	2,100	29,371
Shanxi	山西省	1,848	28	1,774	18,233
Nei Monggol	内蒙古自治区	1,236	2	453	5,429
Liaoning	辽宁省	1,173	1	736	8,482
Jilin	吉林省	939	-	915	5,133
Heilongjiang	黑龙江省	1,121	-	100	15,175
Shanghai	上海市	796	-	88	1,488
Jiangsu	江苏省	2,888	23	1,389	11,258
Zhejiang	浙江省	2,786	-	949	2,386
Anhui	安徽省	1,575	-	1,152	2,914
Fujian	福建省	919	16	288	2,124
Jiangxi	江西省	1,582	16	1,293	1,361
Shandong	山东省	1,961	86	2,002	22,461
Henan	河南省	2,857	216	793	26,335
Hubei	湖北省	1,118	44	1,086	11,867
Hunan	湖南省	2,952	13	2,952	8,229
Guangdong	广东省	873	74	199	1,948
Guangxi	广西	1,948	24	986	4,978
Sichuan	四川省	-	2	7,082	25,843
Guizhou	贵州省	900	13	549	-
Yunnan	云南省	1,387	6	983	687
Xizang	西藏	-	-	-	-
Shaanxi	陕西省	1,493	44	1,921	13,718
Gansu	甘肃省	1,216	2	1,336	-
Qinghai	青海省	209	-	238	896
Ningxia	宁夏	252	2	175	1,687
Xinjiang	新疆	574	-	491	3,467

Provided by Farm Machinery Control Bureau, Ministry of Agriculture

- Key:**
- (a) Place
 - (b) Number of Commune Farm Machine Control Stations (Units)
 - (c) Number of State-owned Farm Machine Stations (Units)
 - (d) Number of Commune Farm Machine Stations (Units)
 - (e) Number of Brigade Farm Machine Brigades (Stations) (Units)

Meterological Observatories and Stations in Each Province, Municipality, and
Autonomous Region

Place	Total	Meteorological Observatories	Units: Each Meteorological Stations
National Total	2,671	292	2,379
Beijing	21	1	20
Tianjin	16	1	15
Hebei	168	13	155
Shanxi	116	10	106
Nei Monggol	151	12	139
Liaoning	71	13	58
Jilin	62	7	55
Heilongjiang	86	9	77
Shanghai	11	1	10
Jiangsu	80	10	70
Zhejiang	79	10	69
Anhui	79	10	69
Fujian	78	9	69
Jiangxi	91	11	80
Shandong	125	14	111
Henan	129	14	115
Hubei	82	10	72
Hunan	120	12	108
Guangdong	122	13	109
Guangxi	105	12	93
Sichuan	205	20	185
Guizhou	90	10	80
Yunnan	135	17	118
Xizang	39	6	33
Shaanxi	105	9	96
Gansu	86	12	74
Qinghai	54	7	47
Ningxia	25	4	21
Xinjiang	139	14	125
Beijing Meteorological Center	1	1	

Provided by Planning and Finance Department, Central Meteorological Bureau

AGRICULTURE

Gross Output Value of Agriculture

Units: 100 million Yuan

	1981年		1980年	1981年比	以农业单产化为100 (e)	
	(a) 按1980年不变价格计算	按1970年不变价格计算	(按1970年不变价格计算)	1980年增减 %	1981年	1980年
农业总产值 (f)	2,312.0	1,719.7	1,627.2	5.7	100.0	100.0
农业(作物栽培)产值 (g)	1,488.7	1,103.1	1,047.0	5.4	64.1	64.3
林业产值 (h)	94.7	52.0	49.7	4.0	3.0	3.1
牧业产值 (i)	356.9	245.0	231.0	6.1	14.3	14.2
副业产值 (j)	331.2	297.8	278.5	6.9	17.3	17.1
(k 其中: 大队办工业	224.4	210.7	194.4	8.4	12.3	11.9
生产队办工业	50.2	47.0	42.1	11.0	2.7	2.6
渔业产值 (l)	40.5	21.8	21.0	3.8	1.3	1.3

Provided by State Statistical Bureau

- Key:
- (a) At constant 1980 prices
 - (b) At constant 1970 prices
 - (c) 1980 (At constant 1970 prices)
 - (d) Percent increase or decrease in 1981 from 1980
 - (e) Agricultural yields per unit of area converted to 100 (figures at constant 1970 prices)
 - (f) Gross output value of agriculture
 - (g) Output value of farming
 - (h) Output value of forestry
 - (i) Output value of animal husbandry
 - (j) Output value of sideline occupations
 - (k) Including: Production brigade-run industries
Production team-run industries
 - (l) Output value of fishing industry

**Gross Output Value of Agriculture in Each Province, Municipality, and
Autonomous Region (1)**
(Based on Constant 1970 Prices)

Units: 100 million yuan

地 区 (a)	农业总产值 (b) 值 合 计	(c) 农业产值	(d) 林业产值	(e) 牧业产值	(f) 副业产值	(g) 其 中		渔业产值 (j)
						大队办 工业 (h)	生产队 办工业 (i)	
National Total 全国总计	1,719.60	1,103.12	51.04	245.02	297.70	210.72	46.96	21.82
Beijing 北 京	14.50	6.44	0.20	3.53	5.31	4.16	0.70	0.02
Tianjin 天 津	16.34	4.06	0.04	1.20	9.05	7.50	2.21	0.11
Hebei 河 北	87.91	54.89	1.55	11.72	19.44	13.39	4.77	0.31
Shanxi 山 西	40.26	22.82	1.14	3.06	12.64	9.74	1.06	---
Nei Monggol 内 蒙 古	30.02	16.37	1.20	9.07	3.21	1.10	0.63	0.00
Liaoning 辽 宁	64.63	37.67	1.60	10.30	12.70	9.16	2.26	2.00
Jilin 吉 林	40.49	27.90	1.61	5.20	5.61	3.21	0.29	0.00
Heilongjiang 黑 龙 江	63.00	46.43	3.27	7.60	7.30	4.83	0.96	0.20
Shanghai 上 海	27.00	9.15	0.10	4.21	13.74	13.72	---	0.70
Jiangsu 江 苏	160.07	80.00	0.90	10.11	49.42	40.00	2.12	2.70
Zhejiang 浙 江	90.19	47.42	2.21	13.19	24.15	20.61	1.25	3.22
Anhui 安 徽	83.10	64.91	1.00	9.35	7.37	3.04	1.41	0.47
Fujian 福 建	43.45	26.29	2.64	4.26	8.35	5.41	0.90	1.01
Jiangxi 江 西	55.09	30.91	2.75	6.55	8.30	3.65	1.20	0.52
Shandong 山 东	140.74	80.25	1.80	10.33	10.82	14.90	4.70	3.13
Henan 河 南	117.50	60.50	1.62	10.16	10.13	12.67	4.70	0.17
Hubei 湖 北	80.43	61.02	3.52	12.71	9.40	4.00	4.00	0.00
Hunan 湖 南	96.91	66.52	3.61	14.59	11.14	6.30	2.10	1.05
Guangdong 广 东	92.94	52.15	0.51	13.63	14.56	9.05	2.26	3.00
Guangxi 广 西	51.29	25.12	2.00	6.18	6.69	1.91	1.00	0.50
Sichuan 四 川	140.76	90.70	2.65	30.50	10.49	8.72	2.35	0.23
Guizhou 贵 州	30.61	19.05	0.90	5.64	3.91	0.45	0.49	0.02
Yunnan 云 南	44.14	29.14	2.81	7.05	5.04	1.54	1.70	0.10
Xizang 西 藏	4.87	1.96	0.02	2.67	0.42	---	---	---
Shaanxi 陕 西	25.96	25.50	1.30	4.41	4.66	2.41	1.12	0.01
Gansu 甘 肃	21.34	15.22	0.46	3.60	1.90	1.00	0.60	---
Qinghai 青 海	8.00	2.64	0.05	2.91	0.47	0.23	0.16	0.01
Ningxia 宁 夏	5.64	4.26	0.16	0.76	0.46	0.24	0.15	---
Xinjiang 新 疆	25.91	17.31	0.49	6.10	1.97	1.23	---	0.04

Provided by State Statistical Bureau

- Key: (a) Place
 (b) Total Gross Output Value of Agriculture
 (c) Output Value of Farming
 (d) Output Value of Forestry
 (e) Output Value of Animal Husbandry
 (f) Output Value of Sideline Occupations
 (g) Including
 (h) Brigade Industry
 (i) Production Team Industry
 (j) Output Value of Fishing Industry

Gross Output Value of Agriculture in Each Province, Municipality and
Autonomous Region (2)
(Based on Constant 1980 Prices)

Units: 100 million yuan

(a)	(b)	(c)	(d)	(e)	(f)	(g)		(j)
						(h)	(i)	
	农业总产值	农业产值	林业产值	畜牧业产值	副业产值	大队办工业	生产队办工业	渔业产值
National Total	2,311.04	1,088.00	94.00	358.05	331.19	224.37	50.17	48.54
Beijing	18.33	8.43	0.40	3.90	5.41	4.25	0.70	0.06
Tianjin	18.16	5.50	0.00	1.00	10.62	8.32	2.34	0.20
Hebei	113.78	75.21	2.40	15.05	20.43	13.80	4.05	0.60
Shanxi	53.36	30.05	2.70	5.43	14.28	11.14	1.06	
Nei Monggol	41.00	22.94	2.00	11.30	4.25	1.30	0.77	0.10
Liaoning	84.34	50.53	3.24	13.00	13.33	9.42	2.30	3.35
Jilin	87.34	39.02	2.02	7.72	7.52	4.03	0.20	0.16
Heilongjiang	90.71	60.04	5.72	10.20	0.20	4.00	0.00	0.40
Shanghai	22.00	11.04	0.15	5.71	13.70	13.70		1.50
Jiangsu	207.62	122.97	12.01	27.05	40.00	40.04	2.00	4.00
Zhejiang	117.42	62.44	3.70	10.40	20.61	22.00	1.52	0.10
Anhui	116.10	60.04	2.52	15.07	0.00	4.44	1.73	0.00
Fujian	57.63	32.02	4.32	0.77	10.14	0.40	1.21	3.50
Jiangxi	70.54	40.00	5.00	0.70	11.00	3.00	1.22	1.07
Shandong	100.00	120.00	3.10	20.74	20.25	17.44	5.50	4.94
Henan	102.52	120.62	3.60	17.17	21.71	13.70	5.23	0.34
Hubei	114.00	62.35	5.07	15.07	0.10	4.00	3.50	1.03
Hunan	131.43	60.05	0.70	23.32	13.10	7.00	2.42	2.10
Guangdong	120.27	60.57	11.70	10.00	15.75	0.70	2.44	0.14
Guangxi	71.01	45.44	4.00	12.21	0.32	1.01	1.00	0.00
Sichuan	101.10	120.70	7.50	43.40	13.13	7.47	2.00	0.00
Guizhou	40.70	20.00	2.10	7.52	4.00	0.03	0.07	0.07
Yunnan	50.00	37.70	4.55	10.00	5.07	1.05	1.00	0.20
Xizang	5.24	2.00	0.00	3.62	0.40			
Shaanxi	60.00	34.00	3.00	7.21	5.20	2.57	1.10	0.03
Gansu	20.00	20.00	1.10	4.57	1.00	1.00	0.00	
Qinghai	2.15	2.74	0.15	2.74	0.51	0.25	0.17	0.01
Ningxia	7.55	5.04	0.30	0.00	0.00	0.32	0.17	0.01
Xinjiang	24.26	23.44	1.13	7.35	2.26	1.23	-	0.00

Provided by State Statistical Bureau

- Key: (a) Place
 (b) Total Gross Output Value of Agriculture
 (c) Output Value of Farming
 (d) Output Value of Forestry
 (e) Output Value of Animal Husbandry
 (f) Output Value of Sideline Occupations
 (g) Including
 (h) Brigade Industry
 (i) Production Team Industry
 (j) Output Value of Fishing Industry

National Area Sown and Output of All Farm Crops

		播种面积 (a) (万亩)	总产量 (b)粮食, 亿斤 其他, 万吨	单产 (c) (斤)
Area sown to farm crops	农作物播种面积	217,735.6		
Double cropping Index (%)	复种指数(%)	147		
1. Grain crops	一、粮食作物	172,636.6	6,506.4	377
Including: Summer Grains	其中: 夏粮	44,605.5	1,279.8	286
1. Paddy rice	1. 稻谷	49,942.1	2,679.1	536
Including: dryland paddy	其中: 旱稻	15,962.8	898.7	561
2. Wheat	2. 小麦	42,464.1	1,192.8	281
3. Tubers	3. 薯类	14,433.6	519.4	360
4. Corn	4. 玉米	29,127.4	1,184.1	406
5. Gaoliang	5. 高粱	3,915.1	133.0	340
6. Millet	6. 谷子	5,823.8	195.3	198
7. Miscellaneous other grains	7. 其他杂粮	14,642.1	290.2	198
8. Soybeans	8. 大豆	12,635.2	186.5	185
Percentage of total sown area sown to grain (%)	粮食作物播种面积占总播种面积比重(%)	79.2		
2. Cash crops	二、经济作物	29,341.3		
1. Cotton	1. 棉花	7,777.6	5,935.2	76
2. Oil-bearing crops	2. 油料	13,701.5	29,416.4	149
Including: Peanuts	其中: 花生	3,706.6	7,632.7	206
Rapeseed	油菜籽	5,781.9	6,129.8	143
Sesame	芝麻	1,228.9	1,619.1	83
Sunflowers	向日葵	1,584.0	2,042.1	171
3. Hemp	3. 麻类	886.5	3,152.9	356
Including: Jute & Amhari hemp	其中: 黄麻	459.3	2,529.2	549
4. Sugar crops	4. 糖料	1,449.4	37,064.9	4,867
Cane sugar	甘蔗	876.9	19,334.2	7,176
Sugarbeets	甜菜	653.7	12,729.7	1,946
5. Tobacco	5. 烟叶	1,135.5	2,994.5	264
Including: Flue-cured tobacco	其中: 烤烟	879.5	2,557.4	291
6. Medicinal herbs	6. 药材	149.3		
7. Other cash crops	7. 其他经济作物	1,219.3		
Percent of sown area sown to cash crops (%)	经济作物播种面积占总播种面积比重(%)	12.1		
3. Other farm crops	三、其他大作物	16,957.4		
Including: Vegetables	其中: 蔬菜	5,171.6		
Green mature	鲜菜	16,635.3		
Percent of sown area sown to other farm crops (%)	其他大作物播种面积占总播种面积比重(%)	8.7		

Provided by Planning Bureau, Ministry of Agriculture

Key: (a) Area Sown (10,000 mu)
 (b) Gross Output (Grain: 100 million jin; Other: 10,000 dan)
 (c) Yield Per Mu (Jin)

Increase and Decrease in National Area Sown to Various Farm Crops

Units: 10,000 mu

		1981年	1980年	Increase or decrease 1981年比1980年增减 in 1981 from 1980	
				Absolute 绝对数 Figures	Percent %
Total area sown to farm crops	农作物总播种面积	217,725.6	219,149.3	-1,423.7	-0.6
1. Grain crops	一. 粮食作物	172,436.5	175,851.4	-3,414.9	-1.9
Including: Summer Grains	其中: 夏粮	64,805.5	66,500.6	-1,695.1	-2.6
1. Paddy Rice	1. 水稻	49,942.1	50,817.7	-875.6	-1.7
Including: Dryland Paddy	其中: 旱稻	15,982.8	16,066.2	-83.4	-0.5
2. Wheat	2. 小麦	42,466.1	43,841.8	-1,375.7	-3.2
3. Tubers	3. 薯类	14,438.6	15,230.2	-791.6	-5.3
4. Corn	4. 玉米	29,137.4	30,529.2	-1,391.8	-4.6
5. Gaoliang	5. 高粱	3,915.1	4,829.2	-914.1	-19.1
6. Millet	6. 谷子	5,822.8	5,888.3	-65.5	-1.1
7. Miscellaneous other grains	7. 其他杂粮	14,642.1	14,745.5	-103.4	-0.7
8. Soybeans	8. 大豆	12,435.3	10,839.5	1,595.8	14.7
2. Cash Crops	二. 经济作物	26,341.3	23,881.5	2,459.8	10.3
1. Cotton	1. 棉花	7,777.4	7,589.4	188.0	2.5
2. Oil-bearing crops	2. 油料	13,781.5	11,957.7	1,823.8	15.3
Including: Peanuts	其中: 花生	3,706.8	3,568.8	138.0	3.9
Rapeseeds	油菜籽	5,781.1	4,296.1	1,485.0	34.6
Sesame	芝麻	1,226.9	1,184.2	42.7	3.6
Sunflower	向日葵	1,559.8	1,367.3	192.5	14.1
3. Hemp	3. 麻类	886.5	989.7	-103.2	-10.4
Including: Jute & Ambari hemp	其中: 黄红麻	459.3	471.3	-12.0	-2.6
4. Sugar crops	4. 糖料	1,446.4	1,382.4	64.0	4.6
Sugarcane	甘蔗	838.8	719.3	119.5	16.6
Sugarbeets	甜菜	607.6	663.1	-55.5	-8.4
5. Tobacco	5. 烟叶	1,135.5	767.8	367.7	47.8
Including: flue-cured tobacco	其中: 烤烟	879.5	585.1	294.4	50.1
6. Medicinal herbs	6. 药材	149.3	281.0	-131.7	-47.0
7. Other	7. 其他	1,219.3	1,254.3	-35.0	-2.8
3. Other Farm Crops	三. 其他农作物	18,947.8	19,406.4	-458.6	-2.4
Including: Vegetables	其中: 蔬菜	6,171.6	6,742.8	-571.2	-8.5
Green Manure	绿肥	10,825.3	11,309.2	-483.9	-4.3

Provided by Planning Bureau, Ministry of Agriculture

National Increase or Decrease in Gross Output of Various Farm Crops

Unit: Grain: 100 million jin
Other: 10,000 dan

		1961年	1960年	Increase or Decrease 1961年比1960年增减 in 1961 from 1960	
				Absolute 绝对数 Figures	%
Grain	粮食	8,500.4	8,411.1	89.3	1.1
Including: Summer Grains	其中: 夏粮	1,279.8	1,183.8	96.0	7.9
1. Paddy rice	1. 稻谷	2,879.1	2,798.1	80.9	2.9
Early paddy	早稻	900.7	882.8	17.9	2.0
Intermediate paddy and single crop late paddy	中稻和一年两熟	1,185.7	1,081.1	104.6	7.8
Double crop late paddy	双季晚稻	722.7	734.2	-11.5	-1.5
North China paddy	北方稻	183.9	193.1	-9.2	-4.8
2. Wheat	2. 小麦	1,182.8	1,194.1	-11.3	-0.9
3. Tubers	3. 薯类	519.4	574.5	-55.1	-9.6
4. Corn	4. 玉米	1,184.1	1,252.8	-68.7	-5.4
5. Gaoliang	5. 高粱	132.9	135.5	-2.6	-1.8
6. Millet	6. 谷子	115.3	100.9	14.4	1.4
7. Miscellaneous other	7. 其他杂粮	290.1	279.1	11.0	4.0
8. Soybeans	8. 大豆	186.5	158.8	27.7	17.4
Cotton	棉花	5,925.2	5,413.4	511.8	9.4
Oil-bearing crops	油料	29,416.4	15,301.1	14,115.3	92.2
Including: Peanuts	其中: 花生	7,652.7	7,200.6	452.1	6.3
Rapeseed	油菜籽	6,179.8	4,787.4	1,392.4	29.1
Sesame	芝麻	1,019.1	517.1	502.0	97.1
Sunflowers	向日葵	2,123.1	1,819.4	303.7	16.7
Hemp	麻	3,157.9	2,871.9	286.0	9.9
Including: Jute & ambari hemp	其中: 黄麻	2,529.1	2,196.8	332.3	14.7
Sugar Crops	糖料	72,094.8	58,225.4	13,869.4	23.8
Sugarcane	甘蔗	59,336.2	45,814.8	13,521.4	29.5
Sugarbeets	甜菜	12,728.7	12,410.6	318.1	2.5
Tobacco	烟草	2,994.8	1,689.6	1,305.2	77.3
Including: Flue-cured tobacco	其中: 烤烟	2,557.4	1,423.3	1,134.1	79.4

Provided by Planning Bureau, Ministry of Agriculture

National Composition of Grain Crops

		Area Sown 播种面积				Gross Output 总产量			
		Absolute 绝对量(万亩) Figures		Percentage 构成(%)		Absolute 绝对量(亿斤) Figures		Percentage 构成(%)	
		1981年	1980年	1981年	1980年	1981年	1980年	1981年	1980年
Total grain crops	粮食作物合计	172,436.5	175,851.7	100.0	100.0	6,500.4	6,411.1	100.0	100.0
1. By season	一、按季节分								
Summer Grain	夏粮	44,295.5	46,500.6	26.0	26.4	1,279.8	1,185.6	19.7	18.5
Early Paddy	早稻	15,962.2	16,665.2	9.2	9.5	990.7	962.8	15.2	15.3
Autumn Grain	秋粮	111,648.2	112,685.9	64.8	64.1	4,229.9	4,242.7	65.1	66.2
2. By Crop	二、按品种分								
Paddy rice	稻	49,942.1	50,817.7	29.0	29.0	2,879.1	2,790.1	44.3	43.6
Early paddy	早稻	15,962.8	16,665.2	9.3	9.5	990.7	962.8	15.2	15.3
Intermediate & single crop late paddy	中稻和一年晚稻	17,917.2	17,400.2	10.4	9.9	1,165.7	1,061.1	17.9	16.6
Double crop late paddy	双季晚稻	16,068.1	16,752.3	9.3	9.5	722.7	734.2	11.1	11.5
North China paddy	北方稻	2,929.1	3,059.2	1.7	1.7	183.9	193.1	2.8	3.0
Wheat	小麦	42,460.1	43,841.6	24.6	24.9	1,182.8	1,104.1	18.3	17.2
Tubers	薯类	14,439.6	15,230.2	8.3	8.7	519.4	574.5	8.0	9.0
Corn	玉米	29,137.4	30,529.2	16.9	17.4	1,104.1	1,252.0	16.2	19.5
Gaoliang	高粱	3,915.1	4,039.2	2.3	2.3	133.0	135.5	2.0	2.1
Millet	谷子	5,833.8	5,800.2	3.4	3.3	115.3	100.9	1.8	1.7
Miscellaneous other grains	其他杂粮	14,682.1	14,745.5	8.5	8.4	290.2	279.1	4.5	4.4
Soybeans	大豆	12,035.2	10,939.5	7.0	6.1	186.5	158.0	2.9	2.5

Provided by Planning Bureau, Ministry of Agriculture

Area Sown to Farm Crops and Multiple Cropping Indices for Each Province,
Municipality, and Autonomous Region

Units: 10,000 mu

Place	地 区	农作物总 (a) 播种面积	粮食作物 (b)	经济作物 (c)	其他农作物 (d)	(e) 占总面积的比 (%)			复种指数 (f)
						粮食作物	经济作物	其他农作物	
						(b)	(c)	(d)	
National Total	全国总计	217,735.4	172,436.5	38,541.3	18,957.6	79.2	12.1	8.7	147
Beijing	北 京	965.7	794.7	48.3	122.7	82.3	5.0	12.7	152
Tianjin	天 津	856.6	782.1	86.2	87.2	91.9	9.9	9.1	138
Hebei	河 北	13,249.6	10,965.7	1,613.3	670.6	82.8	12.2	5.0	133
Shanxi	山 西	6,217.2	5,130.4	706.5	380.4	82.5	11.4	6.1	106
Nei Monggol	内 蒙 古	6,992.3	5,789.7	634.3	567.3	82.7	11.9	5.4	90
Liaoning	辽 宁	5,779.2	4,713.0	615.6	450.6	81.6	10.7	7.7	104
Jilin	吉 林	6,112.2	5,263.0	524.5	324.7	86.1	9.6	5.3	100
Heilongjiang	黑 龙 江	13,090.9	10,823.2	1,108.8	1,158.9	82.4	8.5	8.1	109
Shanghai	上 海	1,137.8	666.8	293.6	177.4	58.6	25.8	15.6	216
Jiangsu	江 苏	12,759.9	9,593.4	1,689.1	1,477.4	75.2	13.2	11.6	163
Zhejiang	浙 江	6,965.9	5,062.6	897.9	1,005.4	72.7	16.0	11.3	216
Anhui	安 徽	11,819.7	8,036.3	1,857.3	826.1	76.5	15.7	7.8	177
Fujian	福 建	3,789.9	3,206.3	337.4	246.2	84.6	8.9	6.5	199
Jiangxi	江 西	8,314.2	5,637.4	786.8	1,890.0	67.8	9.5	22.7	219
Shandong	山 东	15,631.3	12,234.8	2,776.7	620.7	78.2	17.8	4.0	144
Henan	河 南	18,529.3	13,544.2	2,434.3	550.8	82.0	14.7	3.3	155
Hubei	湖 北	10,894.8	7,700.0	1,634.9	1,499.9	71.2	15.0	13.8	195
Hunan	湖 南	12,914.1	8,130.1	1,986.7	2,817.3	67.7	8.9	23.4	234
Guangdong	广 东	9,593.2	7,592.8	1,447.4	553.0	79.1	15.1	8.8	201
Guangxi	广 西	7,243.8	5,899.6	843.8	500.4	81.5	11.6	6.9	183
Sichuan	四 川	18,258.7	15,454.3	1,727.2	1,077.2	84.6	9.5	5.9	185
Guizhou	贵 州	4,280.4	3,462.1	607.3	211.0	80.9	14.2	4.9	150
Yunnan	云 南	5,959.2	5,309.7	421.4	228.1	89.1	7.1	3.8	140
Xizang	西 藏	221.3	289.9	16.7	14.7	94.3	5.2	4.5	95
Shaanxi	陕 西	7,262.2	6,119.4	735.6	407.2	84.2	10.1	5.6	129
Gansu	甘 肃	5,102.7	4,289.5	359.7	453.5	84.1	7.9	8.9	96
Qinghai	青 海	757.5	612.2	118.8	26.5	80.8	15.7	3.5	86
Ningxia	宁 夏	1,295.5	1,071.0	129.1	95.4	82.3	10.6	6.7	97
Xinjiang	新 疆	4,448.7	3,124.3	831.1	512.3	69.9	18.6	11.5	94

Provided by Planning Bureau, Ministry of Agriculture

- Key: (a) Total Area Sown to Farm Crops
 (b) Grain Crops
 (c) Cash Crops
 (d) Other Crops
 (e) Percent of Total Sown Area
 (f) Multiple Cropping Index (%)

Area Sown to Major Crops and Outputs For Each Province, Municipality, and Autonomous Region (1)

Area: 10,000 mu
Units: Yields per mu: Jin
Gross output:
100 million jin

Place	地 区	(a) 一、粮 食 (包括大豆)			(b) 在粮食总计中, 夏收粮食		
		播种面积 (c)	总产量 (d)	(e) 每市产量 (按播种面积计算)	播种面积 (c)	总产量 (d)	每市产量 (f)
National Total	全国总计	172,436.5	6,500.1	377	44,805.5	1,279.8	286
Beijing	北 京	794.7	30.1	455	305.7	12.3	390
Tianjin	天 津	752.1	31.4	274	256.1	4.3	165
Hebei	河 北	10,966.7	315.0	287	3,829.6	84.9	222
Shanxi	山 西	5,130.4	145.0	283	1,556.6	33.6	216
Nei Monggol	内 蒙 古	5,786.7	162.0	176	-	-	-
Liaoning	辽 宁	4,700.0	232.1	493	72.9	1.6	219
Jilin	吉 林	5,263.9	184.4	350	-	-	-
Heilongjiang	黑 龙 江	10,922.2	250.0	229	-	-	-
Shanghai	上 海	606.0	37.1	566	216.2	9.7	446
Jiangsu	江 苏	9,503.4	342.3	524	3,605.3	163.1	420
Zhejiang	浙 江	5,062.6	263.9	561	886.0	27.7	313
Anhui	安 徽	9,636.3	357.5	396	3,634.2	81.5	302
Fujian	福 建	3,200.3	162.0	505	243.9	6.2	212
Jiangxi	江 西	5,837.4	353.7	450	187.5	2.1	194
Shandong	山 东	12,224.9	482.5	378	5,295.0	174.0	330
Henan	河 南	13,346.8	462.0	343	6,223.1	222.3	367
Hubei	湖 北	7,700.0	341.4	440	2,617.6	64.5	247
Hunan	湖 南	8,130.1	434.1	534	499.3	7.9	160
Guangdong	广 东	7,502.0	231.1	426	536.8	11.8	210
Guangxi	广 西	5,690.6	229.9	390	110.0	1.3	110
Sichuan	四 川	16,454.3	682.1	440	4,970.5	137.8	277
Guizhou	贵 州	3,462.1	113.5	370	756.1	11.8	163
Yunnan	云 南	5,309.7	193.4	365	1,323.0	24.0	167
Xizang	西 藏	200.0	0.7	328	-	-	-
Shaanxi	陕 西	6,110.4	156.0	246	2,763.4	77.0	281
Gansu	甘 肃	4,300.5	87.0	203	2,643.7	53.4	200
Qinghai	青 海	612.2	10.0	261	-	-	-
Ningxia	宁 夏	1,071.0	25.3	236	680.2	11.8	236
Xinjiang	新 疆	3,124.3	70.0	250	2,066.1	44.9	217

Key: (a) 1. Grain (including soybeans)
(b) Summer harvested grain as part of total grain figures
(c) Area sown
(d) Gross Output
(e) Yields per mu (Based on area sown)
(f) Yields per mu

Area Sown to Major Crops and Output for Each Province, Municipality, and Autonomous Region (2)

Area: 10,000 mu
Units: Yields per mu: jin
Gross output:
100 million jin

Place	地 区	(a) 早 稻			(b) 中 稻			(c) 中稻+晚稻		
		播种面积	总产量	每百产量	播种面积	总产量	每百产量	播种面积	总产量	每百产量
		(d)	(e)	(f)	(d)	(e)	(f)	(d)	(e)	(f)
National Total	全国总计	49,942.1	2,879.1	576	15,962.8	999.7	621	17,919.2	1,165.7	644
Beijing	北 京	73.9	4.3	586	-	-	-	73.9	4.3	586
Tianjin	天 津	50.9	2.5	490	-	-	-	50.9	2.5	490
Hebei	河 北	197.4	14.2	719	-	-	-	197.4	14.2	719
Shanxi	山 西	14.1	1.1	795	-	-	-	14.1	1.1	795
Nei Monggol	内 蒙 古	23.4	0.8	339	-	-	-	23.4	0.8	339
Liaoning	辽 宁	506.0	49.8	835	-	-	-	506.0	49.8	835
Jilin	吉 林	300.6	22.5	592	-	-	-	300.6	22.5	592
Heilongjiang	黑 龙 江	336.1	11.2	332	-	-	-	336.1	11.2	332
Shanghai	上 海	499.8	25.9	612	151.3	12.2	809	651.1	38.1	642
Jiangsu	江 苏	3,897.0	261.3	671	556.6	37.9	666	4,453.6	299.2	728
Zhejiang	浙 江	3,750.2	236.2	630	1,633.4	128.1	784	5,383.6	364.3	541
Anhui	安 徽	3,199.9	189.9	612	1,061.1	76.6	769	4,261.0	266.5	705
Fujian	福 建	2,476.2	136.2	550	1,060.9	58.9	547	3,537.1	195.1	582
Jiangxi	江 西	5,044.1	243.3	482	2,446.5	134.3	549	7,490.6	377.6	541
Shandong	山 东	298.4	13.9	626	-	-	-	298.4	13.9	626
Henan	河 南	582.7	40.9	690	-	-	-	582.7	40.9	690
Hubei	湖 北	2,885.1	246.9	819	1,341.2	77.9	675	4,226.3	324.8	742
Hunan	湖 南	6,624.7	399.7	663	2,884.3	196.5	681	9,509.0	596.2	631
Guangdong	广 东	6,068.8	295.8	496	2,883.4	158.2	549	8,952.2	454.0	587
Guangxi	广 西	4,187.5	196.3	469	1,891.6	96.1	619	6,079.1	292.4	623
Sichuan	四 川	4,888.6	327.8	699	164.3	10.3	619	5,052.9	338.1	712
Guizhou	贵 州	1,154.3	57.4	497	2.6	0.2	621	1,156.9	57.6	497
Yunnan	云 南	1,616.7	67.2	539	67.1	4.3	641	1,683.8	71.5	537
Xizang	西 藏	1.0	0.1	478	-	-	-	1.0	0.1	-
Shaanxi	陕 西	242.2	10.6	437	-	-	-	242.2	10.6	437
Gansu	甘 肃	8.6	0.3	536	-	-	-	8.6	0.3	536
Qinghai	青 海	-	-	-	-	-	-	-	-	-
Ningxia	宁 夏	73.5	7.4	1,004	-	-	-	73.5	7.4	1,004
Xinjiang	新 疆	133.4	5.2	389	-	-	-	133.4	5.2	389

Key: (a) Paddy Rice
(b) Early Rice
(c) Intermediate and Single Crop Late Rice
(d) Area Sown
(e) Gross Output
(f) Yields per mu

Area Sown and Output of Major Farm Crops in Each Province, Municipality, and Autonomous Region (3)

Area: 10,000 mu
Units: Yields per mu: Jin
Gross output:
100 million jin

Place		(a) 双季晚稻			(b) 北方稻			(c) 2. 小麦		
		播种面积 (d)	总产量 (e)	单产 (f)	播种面积 (d)	总产量 (e)	单产 (f)	播种面积 (d)	总产量 (e)	单产 (f)
National Total	全国总计	19,869.1	722.7	450	2,929.1	183.9	629	42,669.1	1,192.8	281
Beijing	北京	-	-	-	73.9	4.3	58	275.4	51.2	406
Tianjin	天津	-	-	-	94.9	2.5	499	251.5	6.2	165
Hebei	河北	-	-	-	197.3	14.2	719	2,779.5	62.5	221
Shanxi	山西	-	-	-	14.1	1.1	795	1,416.7	32.3	239
Nei Monggol	内蒙古	-	-	-	23.4	0.9	339	1,354.3	28.6	147
Liaoning	辽宁	-	-	-	286.9	49.9	835	51.9	1.1	219
Jilin	吉林	-	-	-	289.9	22.5	582	185.5	2.1	189
Heilongjiang	黑龙江	-	-	-	230.1	11.2	323	2,295.6	62.9	191
Shanghai	上海	299.2	9.2	495	-	-	-	79.2	2.6	449
Jiangsu	江苏	995.9	94.5	612	-	-	-	2,549.4	109.2	413
Zhejiang	浙江	1,799.9	97.3	999	-	-	-	695.4	14.9	267
Anhui	安徽	837.3	29.9	245	-	-	-	2,857.7	97.1	295
Fujian	福建	1,624.3	55.4	541	-	-	-	195.6	4.1	219
Jiangxi	江西	2,147.9	94.9	294	-	-	-	174.4	1.9	197
Shandong	山东	-	-	-	299.4	12.9	625	5,294.9	174.9	231
Henan	河南	-	-	-	592.7	49.9	999	9,994.5	214.7	262
Hubei	湖北	1,211.1	49.2	499	-	-	-	1,919.9	49.7	299
Hunan	湖南	2,629.1	157.9	521	-	-	-	329.9	5.3	162
Guangdong	广东	2,119.6	134.1	429	-	-	-	181.2	2.9	179
Guangxi	广西	1,999.5	95.2	429	-	-	-	26.5	9.4	119
Sichuan	四川	129.9	4.9	277	-	-	-	2,499.1	192.9	291
Guizhou	贵州	1.9	9.1	452	-	-	-	699.1	9.4	157
Yunnan	云南	29.3	1.7	444	-	-	-	792.5	14.7	195
Xizang	西藏	-	-	-	1.9	9.1	479	97.9	2.9	279
Shaanxi	陕西	-	-	-	242.2	19.9	427	2,329.9	79.9	295
Gansu	甘肃	-	-	-	5.9	9.3	529	2,999.9	99.4	222
Qinghai	青海	-	-	-	-	-	-	299.3	19.9	222
Ningxia	宁夏	-	-	-	73.5	7.4	1,994	497.3	19.9	295
Xinjiang	新疆	-	-	-	133.4	9.2	299	2,913.5	44.5	219

Key: (a) Double Crop Late Rice
(b) North China Paddy
(c) 2. Wheat
(d) Area Sown
(e) Gross Output
(f) Yields per mu

Area Sown and Output of Major Farm Crops in Each Province, Municipality and Autonomous Region (4)

Place		(a) 3. 薯 类			(b) 4. 玉 米			(c) 5. 高 粱		
		播种面积 (d)	总产量 (e)	单产 (f)	播种面积 (d)	总产量 (e)	单产 (f)	播种面积 (d)	总产量 (e)	单产 (f)
National Total	全国总计	14,436.6	616.4	260	26,127.4	1,164.1	406	2,015.1	133.6	340
Beijing	北 京	12.6	0.4	319	296.9	15.7	629	16.3	0.5	327
Tianjin	天 津	16.6	0.4	260	271.6	10.0	401	81.0	1.0	279
Hebei	河 北	627.0	21.0	343	2,426.1	129.5	576	461.6	13.2	266
Shanxi	山 西	256.4	9.3	260	686.2	46.6	561	264.6	16.3	343
Nei Monggol	内 蒙 古	347.6	7.3	216	667.6	26.5	321	271.2	5.0	216
Liaoning	辽 宁	56.4	1.6	316	1,066.7	116.4	612	667.4	43.5	467
Jilin	吉 林	136.6	4.0	363	2,227.6	166.5	453	413.3	14.0	336
Heilongjiang	黑 龙 江	229.1	6.0	273	2,265.6	66.3	273	442.6	13.0	293
Shanghai	上 海	0.2	—	—	6.6	6.6	670	0.1	—	—
Jiangsu	江 苏	662.3	21.7	564	667.4	34.7	520	25.0	0.6	251
Zhejiang	浙 江	236.4	14.5	629	97.5	3.2	326	—	—	—
Anhui	安 徽	1,062.5	44.1	464	223.7	7.0	254	153.4	3.1	262
Fujian	福 建	361.3	16.6	516	2.4	—	164	1.4	0.1	511
Jiangxi	江 西	162.6	5.4	332	16.5	0.2	172	0.0	—	233
Shandong	山 东	1,724.6	65.7	467	2,266.1	156.6	461	266.6	5.2	195
Henan	河 南	1,511.6	57.0	377	2,544.0	66.1	276	166.3	2.3	166
Hubei	湖 北	564.4	16.4	290	623.6	26.5	279	26.2	0.6	266
Hunan	湖 南	516.6	16.1	361	166.3	4.2	260	15.6	0.3	222
Guangdong	广 东	623.7	27.2	294	64.5	1.3	266	1.6	—	169
Guangxi	广 西	263.5	3.6	137	653.7	24.6	261	2.6	—	76
Sichuan	四 川	2,665.6	162.7	256	2,664.6	116.6	442	122.0	6.0	464
Guizhou	贵 州	269.9	7.6	196	1,664.2	26.5	256	13.6	0.2	145
Yunnan	云 南	346.5	16.7	314	1,426.0	53.0	321	7.7	0.2	260
Xizang	西 藏	0.2	—	566	1.0	0.1	466	—	—	—
Shaanxi	陕 西	496.6	9.6	196	1,511.6	46.5	266	61.6	2.4	259
Gansu	甘 肃	276.2	6.4	176	656.6	13.5	366	56.7	1.3	265
Qinghai	青 海	66.6	1.1	236	—	—	—	—	—	—
Ningxia	宁 夏	72.7	0.6	117	26.4	1.3	262	6.0	0.5	523
Xinjiang	新 疆	16.4	6.5	266	754.6	21.6	326	61.6	1.7	266

Key: (a) 3. Tubers
 (b) 4. Corn
 (c) 5. Gaoliang
 (d) Area Sown
 (e) Gross Output
 (f) Yields per mu

Area Sown and Output of Major Farm Crops in Each Province, Municipality and Autonomous Region (5)

Place		(a) 6. 粟			(b) 7. 其他粮食			(c) 8. 大豆		
		播种面积 (d)	总产量 (e)	单产 (f)	播种面积 (d)	总产量 (e)	单产 (f)	播种面积 (d)	总产量 (e)	单产 (f)
National Total	全国总计	5,822.0	115.3	198	14,682.1	280.2	190	12,025.3	188.5	155
Beijing	北京	10.3	0.8	267	90.4	2.2	250	12.0	0.2	101
Tianjin	天津	10.0	0.3	200	61.0	0.7	113	27.4	0.6	120
Hebei	河北	800.2	21.6	254	1,441.4	24.1	211	425.5	0.1	141
Shanxi	山西	781.3	10.3	247	1,005.3	10.0	162	182.6	2.6	126
Nei Monggol	内蒙古	801.2	12.0	150	1,004.4	23.4	120	201.0	2.0	153
Liaoning	辽宁	317.0	4.5	141	190.5	2.8	120	602.1	12.5	180
Jilin	吉林	646.7	12.0	180	268.3	5.7	213	807.0	15.0	174
Heilongjiang	黑龙江	1,152.0	10.0	173	211.0	5.5	175	2,000.6	60.3	149
Shanghai	上海	-	-	-	167.7	7.0	471	2.3	0.1	527
Jiangsu	江苏	0.5	-	210	1,404.0	80.3	422	467.0	0.5	186
Zhejiang	浙江	-	-	-	292.0	12.0	326	104.2	2.3	210
Anhui	安徽	10.3	0.2	220	401.4	0.0	199	1,100.4	10.1	143
Fujian	福建	0.4	-	80	50.0	1.0	200	110.0	1.0	155
Jiangxi	江西	2.2	-	127	57.0	0.7	131	104.7	2.2	120
Shandong	山东	217.4	0.0	277	102.0	3.2	190	1,078.6	10.0	154
Henan	河南	202.4	0.0	225	547.4	0.3	160	1,790.6	30.0	172
Hubei	湖北	13.5	0.3	206	500.5	0.4	165	241.0	2.5	145
Hunan	湖南	-	-	-	237.0	3.2	135	200.7	3.3	150
Guangdong	广东	0.5	0.1	164	136.2	1.5	110	210.1	2.4	154
Guangxi	广西	0.2	0.1	180	210.0	2.7	123	227.4	2.0	85
Sichuan	四川	-	-	-	1,407.6	30.0	231	257.4	4.5	170
Guizhou	贵州	12.0	0.2	125	270.0	3.2	110	170.0	2.0	114
Yunnan	云南	-	-	-	850.0	15.2	179	72.4	1.5	207
Xizang	西藏	-	-	-	210.2	6.0	316	0.0	-	-
Shaanxi	陕西	240.0	5.0	147	811.0	0.0	100	201.2	2.1	70
Gansu	甘肃	140.0	2.2	140	1,112.0	10.0	144	40.0	0.7	141
Qinghai	青海	-	-	-	254.0	4.0	100	-	-	-
Ningxia	宁夏	51.0	0.4	82	200.1	2.0	90	34.2	0.2	85
Xinjiang	新疆	5.1	-	95	90.5	1.2	123	10.5	0.2	160

Key: (a) 6. Millet
 (b) 7. Miscellaneous Other Grains
 (c) 8. Soybeans
 (d) Area Sown
 (e) Gross Output
 (f) Yields per mu

**Area Sown and Output of Major Farm Crops in Each Province, Municipality,
and Autonomous Region (6)**

Area: 10,000 mu
Units: Yields per mu: jin
Gross output: 10,000 dan

(a) 地 区	二. 播种 作物面积 (b)	(c) 其 中 1. 棉 花			(g) 2. 油 料		
		播种面积 (d)	总产量 (e)	单产 (f)	播种面积 (d)	总产量 (e)	单产 (f)
National Total 全国总计	39,361.3	7,777.8	5,825.2	76	13,781.5	29,419.4	149
Beijing 北 京	48.3	2.2	1.4	45	41.1	44.5	108
Tianjin 天 津	88.2	14.8	4.5	30	65.6	96.1	137
Hebei 河 北	1,812.3	796.7	443.3	56	742.1	828.8	125
Shanxi 山 西	788.5	386.3	132.8	43	344.3	261.8	76
Nei Monggol 内 蒙 古	834.3	-	-	-	793.1	725.5	103
Liaoning 辽 宁	815.8	58.7	64.8	75	688.6	612.2	127
Jilin 吉 林	824.5	-	-	-	348.5	686.4	198
Heilongjiang 黑 龙 江	1,188.8	-	-	-	472.8	888.3	188
Shanghai 上 海	293.6	176.7	148.6	84	198.8	293.7	279
Jiangsu 江 苏	1,688.1	984.1	1,126.9	113	682.6	1,282.1	213
Zhejiang 浙 江	687.8	161.8	126.3	84	446.4	798.9	178
Anhui 安 徽	1,057.3	482.6	212.8	63	1,162.4	1,886.8	171
Fujian 福 建	327.4	-	-	-	303.5	378.8	182
Jiangxi 江 西	788.8	157.8	83.8	60	548.8	386.7	73
Shandong 山 东	2,776.7	1,686.4	1,250.8	98	1,083.8	2,841.8	267
Henan 河 南	2,434.3	962.4	710.1	74	1,116.7	1,419.8	188
Hubei 湖 北	1,634.9	888.7	788.4	81	658.1	783.8	121
Hunan 湖 南	1,888.7	288.7	187.8	73	639.2	715.1	112
Guangdong 广 东	1,447.4	-	-	-	712.8	1,228.3	171
Guangxi 广 西	843.8	4.4	1.3	30	248.8	284.7	114
Sichuan 四 川	1,727.2	358.5	172.4	48	1,049.4	1,958.1	186
Guizhou 贵 州	687.3	4.3	1.3	30	488.1	678.3	145
Yunnan 云 南	421.4	8.6	2.4	38	199.3	214.2	107
Xizang 西 藏	16.7	-	-	-	16.7	23.8	142
Shaanxi 陕 西	725.4	388.3	123.8	38	388.1	326.1	117
Gansu 甘 肃	358.7	8.4	8.8	95	298.5	263.7	88
Qinghai 青 海	118.8	-	-	-	118.8	128.8	107
Ningxia 宁 夏	129.1	-	-	-	122.5	75.5	62
Xinjiang 新 疆	831.1	347.8	227.2	65	438.2	421.4	96

- Key: (a) Place
(b) 2. Area sown to cash crops
(c) Including: 1. Cotton
(d) Area
(e) Gross Output
(f) Yields per mu
(g) 2. Oil-bearing crops

Area Sown and Output of Major Farm Crops in Each Province, Municipality,
and Autonomous Region (7)

Area: 10,000 mu
Units: Yields per mu: jin
Gross Output: 10,000 dan

(a) 地 区	(b) 其 中 包 括			(c) 油 料 作 物			(g) 芝 麻		
	播种面积 (d)	总产量 (e)	单产 (f)	播种面积 (d)	总产量 (e)	单产 (f)	播种面积 (d)	总产量 (e)	单产 (f)
National Total 全国总计	2,798.6	7,052.7	250	5,781.1	8,129.8	142	1,228.9	1,849.1	83
Beijing 北 京	26.7	22.5	126	3.8	2.5	65	4.7	2.3	49
Tianjin 天 津	13.6	16.7	123	0.2	-	21	0.3	4.2	91
Hebei 河 北	283.6	762.6	179	22.6	19.1	85	60.2	56.5	78
Shanxi 山 西	9.9	14.9	160	19.4	12.3	116	12.8	6.6	53
Nei Monggol 内 蒙 古	-	-	-	121.2	43.6	36	-	-	-
Liaoning 辽 宁	130.9	346.2	213	14.0	5.8	66	19.4	13.6	70
Jilin 吉 林	14.9	19.2	129	0.3	0.1	32	2.4	1.3	52
Heilongjiang 黑 龙 江	8.7	11.1	127	3.4	0.7	22	1.2	1.0	80
Shanghai 上 海	0.2	0.6	219	106.6	263.2	278	-	-	-
Jiangsu 江 苏	163.3	496.3	250	428.8	661.7	261	8.8	8.2	93
Zhejiang 浙 江	13.7	25.3	185	428.5	765.9	180	8.2	8.7	106
Anhui 安 徽	223.3	496.8	223	740.2	1,264.9	175	190.6	187.9	99
Fujian 福 建	128.6	214.1	244	69.4	56.8	73	5.1	4.4	85
Jiangxi 江 西	73.1	113.4	155	378.3	232.6	61	89.4	56.7	57
Shandong 山 东	1,002.3	2,779.9	277	25.0	34.1	137	32.5	26.6	82
Henan 河 南	293.4	376.3	126	384.3	381.8	182	456.6	254.6	81
Hubei 湖 北	96.2	122.8	219	388.1	446.1	115	282.1	214.9	106
Hunan 湖 南	62.9	86.1	137	655.5	611.8	110	16.3	12.5	76
Guangdong 广 东	845.0	1,189.5	184	26.7	18.5	60	21.2	12.3	39
Guangxi 广 西	261.8	261.5	139	18.9	9.4	52	25.6	16.3	49
Sichuan 四 川	142.4	243.1	172	885.6	1,645.5	192	36.1	31.8	106
Guizhou 贵 州	19.7	34.6	126	425.7	635.4	149	1.7	1.4	82
Yunnan 云 南	39.9	52.4	131	145.4	145.1	100	2.9	2.2	76
Xizang 西 藏	0.1	-	-	16.7	23.8	143	-	-	-
Shaanxi 陕 西	15.4	23.9	149	186.9	272.5	146	19.7	8.3	39
Gansu 甘 肃	-	-	-	61.2	82.9	163	0.1	-	-
Qinghai 青 海	-	-	-	112.4	121.6	109	-	-	-
Ningxia 宁 夏	-	-	-	3.3	1.5	45	-	-	-
Xinjiang 新 疆	0.8	1.8	190	151.4	167.6	71	2.8	1.2	58

Key: (a) Place
(b) Including: Peanuts
(c) Oil-bearing seeds
(d) Area Sown
(e) Gross Output
(f) Yields per mu
(g) Sesame

Area Sown and Output of Major Farm Crops in Each Province, Municipality,
and Autonomous Region (8)

Area: 10,000 mu

Yields per mu: Jin

Gross output: 10,000 dan

(a)		(b) 苧 麻 籽			(c) 向日葵			(d) 3. 麻		
		播种面积	总产量	单产	播种面积	总产量	单产	播种面积	总产量	单产
		(e)	(f)	(g)	(e)	(f)	(g)	(e)	(f)	(g)
National Total	全国总计	878.3	471.6	48	1,358.8	2,862.1	171	886.5	2,152.9	244
Beijing	北京市	-	-	-	4.2	4.2	143	0.9	0.6	63
Tianjin	天津市	8.8	5.9	62	22.3	62.9	189	2.7	2.1	56
Hebei	河北省	173.1	48.4	28	66.2	96.5	146	25.8	28.7	81
Shanxi	山西省	173.3	56.4	33	78.1	98.6	141	8.3	5.9	71
Nei Monggol	内蒙古	225.8	80.5	40	214.3	474.9	222	13.4	7.7	58
Liaoning	辽宁省	8.4	-	-	277.4	343.1	86	29.9	15.8	53
Jilin	吉林省	-	-	-	294.2	364.8	202	27.8	27.2	72
Heilongjiang	黑龙江省	-	-	-	488.9	888.8	189	178.3	382.1	225
Shanghai	上海市	-	-	-	-	-	-	-	-	-
Jiangsu	江苏省	-	-	-	-	-	-	22.1	78.8	348
Zhejiang	浙江省	-	-	-	-	-	-	56.5	215.8	786
Anhui	安徽省	-	-	-	8.2	8.2	180	88.3	481.5	545
Fujian	福建省	-	-	-	8.1	8.1	51	8.7	48.7	606
Jiangxi	江西省	-	-	-	-	-	-	18.2	62.2	329
Shandong	山东省	-	-	-	3.8	2.9	86	58.8	129.4	220
Henan	河南省	-	-	-	8.2	8.1	57	85.8	438.8	585
Hubei	湖北省	-	-	-	-	-	-	43.5	198.3	456
Hunan	湖南省	-	-	-	1.8	1.8	180	34.3	152.7	445
Guangdong	广东省	-	-	-	-	-	-	47.2	259.9	553
Guangxi	广西壮族自治区	-	-	-	-	-	-	52.8	213.4	418
Sichuan	四川省	2.1	1.1	53	4.9	8.1	125	86.6	384.2	488
Guizhou	贵州省	-	-	-	15.8	14.4	81	3.8	4.8	189
Yunnan	云南省	8.8	8.3	80	3.4	8.8	259	8.2	1.2	52
Xizang	西藏自治区	-	-	-	-	-	-	-	-	-
Shaanxi	陕西省	11.4	2.7	24	-	-	-	4.1	3.7	90
Gansu	甘肃省	189.7	127.8	67	21.4	54.5	255	5.4	5.4	180
Qinghai	青海省	5.7	4.8	83	-	-	-	-	-	-
Ningxia	宁夏回族自治区	71.5	44.2	62	12.1	15.8	124	8.8	6.7	81
Xinjiang	新疆维吾尔自治区	188.9	88.5	47	136.2	184.8	135	1.9	1.3	68

Key: (a) Place
(b) Flaxseed
(c) Sunflower Seed
(d) 3. Hemp
(e) Area Sown
(f) Gross Output
(g) Yields per mu

**Area Sown and Output of Major Farm Crops in Each Province, Municipality,
and Autonomous Region**

Area: 10,000 mu

Units: Yields per mu: Jin

~~Gross Output:~~ 10,000 dan

(a)		(b) 其中 甘蔗			(c) 其他 糖			(d) 甘蔗		
		播种面积 (e)	总产量 (f)	单产 (g)	播种面积 (e)	总产量 (f)	单产 (g)	播种面积 (e)	总产量 (f)	单产 (g)
National Total	全国总计	430.3	2,520.2	540	1,000.6	72,004.9	72.00	826.9	59,336.2	71.76
Beijing	北京	-	-	-	-	-	-	-	-	-
Tianjin	天津	1.1	0.0	83	-	-	-	-	-	-
Hebei	河北	0.4	0.0	114	15.1	106.0	7.02	-	-	-
Shanxi	山西	0.1	-	91	17.7	327.2	1.85	-	-	-
Nei Monggol	内蒙古	-	-	-	85.0	1,640.4	1.93	-	-	-
Liaoning	辽宁	1.0	2.2	122	20.4	451.2	2.21	-	-	-
Jilin	吉林	-	-	-	90.2	1,005.5	1.12	-	-	-
Heilongjiang	黑龙江	-	-	-	261.5	6,781.0	2.59	-	-	-
Shanghai	上海	-	-	-	-	-	-	-	-	-
Jiangsu	江苏	10.0	70.5	375	0.0	124.0	1.24	0.3	17.2	5.40
Zhejiang	浙江	40.4	263.1	730	14.9	1,122.6	7.53	14.9	1,122.6	7.53
Anhui	安徽	70.3	463.2	660	0.5	15.0	3.00	0.4	14.0	3.50
Fujian	福建	0.4	0.0	620	70.0	7,762.4	110.91	70.0	7,762.4	110.91
Jiangxi	江西	15.1	60.0	390	30.2	2,324.0	7.69	30.2	2,324.0	7.69
Shandong	山东	33.6	90.0	264	14.0	319.2	2.28	-	-	-
Henan	河南	67.3	413.2	614	2.1	140.4	6.73	2.1	102.7	4.90
Hubei	湖北	25.4	172.0	681	2.3	100.0	4.35	2.1	100.0	4.76
Hunan	湖南	15.0	130.4	770	25.0	1,704.2	6.82	25.0	1,704.2	6.82
Guangdong	广东	47.0	250.0	533	331.2	27,397.0	8.27	331.2	27,397.0	8.27
Guangxi	广西	50.2	311.1	621	100.5	10,540.0	10.53	100.5	10,540.0	10.53
Sichuan	四川	42.3	230.3	544	70.7	3,424.0	4.84	60.0	3,417.2	5.70
Guizhou	贵州	1.3	0.0	200	0.3	310.3	1.03	0.3	310.0	1.03
Yunnan	云南	-	-	-	72.3	4,490.1	6.21	72.0	4,494.0	6.24
Xizang	西藏	-	-	-	-	-	-	-	-	-
Shaanxi	陕西	0.2	0.0	400	0.0	57.0	0.00	0.2	3.4	1.70
Gansu	甘肃	-	-	-	0.0	212.3	2.05	-	-	-
Qinghai	青海	-	-	-	0.2	1.0	0.01	-	-	-
Ningxia	宁夏	-	-	-	0.5	120.0	2.40	-	-	-
Xinjiang	新疆	-	-	-	20.0	603.2	3.02	-	-	-

Key: (a) Place
 (b) Including: Jute and ambari hemp
 (c) Sugar crops
 (d) Sugarcane
 (e) Area Sown
 (f) Gross output
 (g) Yields per mu

Area Sown and Output of Major Farm Crops in Each Province, Municipality,
and Autonomous Region (10)

Area: 10,000 mu
Units: Yields per mu: Jin
Gross Output: 10,000 dan

(a)	(b)	(c)			(d)			(e)	(f)	(g)
		(e)	(f)	(g)	(e)	(f)	(g)			
National Total	全国总计	652.7	12,729.7	1,946	1,176.5	2,894.5	264	879.5	2,557.4	291
Beijing	北京	-	-	-	0.1	0.4	254	-	-	-
Tianjin	天津	-	-	-	0.3	0.5	129	-	-	-
Hebei	河北	15.1	188.6	1,240	0.9	16.9	189	2.9	3.9	196
Shanxi	山西	17.7	327.2	1,867	2.7	8.3	176	1.6	3.5	222
Nei Monggol	内蒙古	85.8	1,848.4	1,919	6.2	11.8	190	6.2	6.1	71
Liaoning	辽宁	26.4	454.2	2,267	18.2	96.3	309	15.9	50.8	316
Jilin	吉林	90.2	1,885.5	2,802	16.1	41.0	255	19.3	76.8	253
Heilongjiang	黑龙江	201.5	6,761.0	1,918	31.2	82.6	265	25.9	66.7	264
Shanghai	上海	-	-	-	-	-	-	-	-	-
Jiangsu	江苏	9.3	106.7	1,152	7.1	17.3	244	7.9	17.1	244
Zhejiang	浙江	-	-	-	4.7	9.9	211	-	-	-
Anhui	安徽	6.1	1.1	1,336	66.3	177.4	268	63.4	171.9	273
Fujian	福建	-	-	-	26.2	46.5	172	24.9	44.1	177
Jiangxi	江西	-	-	-	6.3	11.4	139	3.4	5.1	148
Shandong	山东	14.8	319.2	2,154	136.6	631.4	313	131.3	616.1	317
Nenan	河南	1.9	45.7	4,415	218.9	777.5	353	218.5	774.8	356
Hubei	湖北	0.2	2.3	1,283	62.8	131.4	253	26.8	75.7	279
Hunan	湖南	-	-	-	94.8	174.5	207	63.5	151.1	238
Guangdong	广东	-	-	-	45.3	73.8	163	20.5	31.8	155
Guangxi	广西	-	-	-	44.6	78.5	178	37.9	68.3	167
Sichuan	四川	6.9	6.8	729	94.8	177.3	187	26.4	51.9	196
Guizhou	贵州	-	0.4	1,137	117.8	269.4	230	66.2	238.5	279
Yunnan	云南	0.3	4.3	1,432	117.8	343.8	346	87.9	327.1	334
Xizang	西藏	-	-	-	-	-	-	-	-	-
Shaanxi	陕西	5.7	53.5	949	23.7	38.3	162	14.5	28.8	199
Gansu	甘肃	0.8	212.3	2,454	5.3	15.7	296	1.3	2.4	290
Qinghai	青海	0.2	1.6	914	-	-	-	-	-	-
Ningxia	宁夏	4.5	125.4	2,885	-	0.1	243	-	-	-
Xinjiang	新疆	29.9	643.2	2,444	0.9	2.7	384	-	-	-

Key: (a) Place
(b) Sugarbeets
(c) 5. Tobacco
(d) Including: Flue-cured Tobacco
(e) Area Sown
(f) Gross Output
(g) Yields per mu

**Area Sown and Output of Major Farm Crops in Each Province, Municipality,
and Autonomous Region (11)**

Area: 10,000 mu

Yields per mu:

Gross Output:

Gross Output								
地 区 (a)	1. 国 内 (b) 生产总值	2. 其 他 经济作物 生产总值 (c)	3. 其 他 非 农 业 生产总值 (d)	(e) 其 中				
				总 值 (f)	从 属 (g)	自 用 的 (h)	地 区 (i)	
National Total 全国总计	149.3	1,219.3	18,817.8	8,171.8	719.7	2,526.8	19,835.3	
Beijing 北 京	0.3	2.7	122.7	82.3	9.1	25.3	4.6	
Tianjin 天 津	0.4	1.4	87.2	51.2	19.5	7.8	3.1	
Hebei 河 北	14.9	11.9	879.5	324.6	73.1	117.4	88.8	
Shanxi 山 西	4.2	23.8	388.4	137.1	29.8	188.2	18.7	
Nei Monggol 内 蒙 古	1.4	24.4	377.3	198.8	31.2	155.9	88.6	
Liaoning 辽 宁	3.3	6.3	443.6	319.1	16.4	34.9	73.6	
Jilin 吉 林	7.9	24.9	323.8	248.1	32.4	24.7	5.3	
Heilongjiang 黑 龙 江	3.8	79.4	1,888.9	443.8	117.3	387.9	185.4	
Shanghai 上 海	1.3	6.8	177.4	87.1	7.5	9.7	73.5	
Jiangsu 江 苏	3.4	41.2	1,486.3	134.4	23.2	84.5	1,253.5	
Zhejiang 浙 江	7.9	19.5	1,395.4	174.7	29.8	-	982.8	
Anhui 安 徽	4.9	42.2	926.1	198.2	26.7	3.3	717.4	
Fujian 福 建	2.4	29.8	246.2	117.5	8.1	7.9	112.8	
Jiangxi 江 西	3.2	22.1	1,899.8	188.7	9.9	17.5	1,738.9	
Shandong 山 东	9.9	88.9	629.7	413.8	87.8	87.5	81.4	
Henan 河 南	9.7	41.2	541.8	382.4	78.4	18.8	148.5	
Hubei 湖 北	8.3	9.9	1,499.9	119.3	19.1	24.8	1,328.5	
Hunan 湖 南	19.9	19.4	2,817.3	383.3	13.9	83.3	2,548.9	
Guangdong 广 东	9.8	381.2	653.8	299.5	16.1	57.9	127.8	
Guangxi 广 西	1.8	381.3	588.4	113.8	9.8	46.8	297.3	
Sichuan 四 川	17.7	88.7	1,478.2	516.8	9.5	343.8	146.7	
Guizhou 贵 州	1.8	7.7	211.8	129.8	3.9	9.4	68.1	
Yunnan 云 南	7.8	17.4	228.1	185.8	4.2	29.3	63.4	
Xizang 藏 族	-	-	14.7	11.4	-	3.1	-	
Shaanxi 陕 西	8.1	8.4	487.2	128.2	23.2	183.5	78.4	
Gansu 甘 肃	18.9	14.2	453.5	61.1	18.7	327.5	96.8	
Qinghai 青 海	-	-	26.5	8.4	8.3	15.8	1.8	
Ningxia 宁 夏	-	1.3	85.4	14.7	5.3	48.7	7.8	
Xinjiang 新 疆	1.1	21.1	513.3	88.4	94.8	281.5	85.8	

Key: (a) Place
 (b) 6. Medicinal Herbs, Area Sown
 (c) 7. Other Cash Crops, Area Sown
 (d) 3. Area Sown to Other Crops
 (e) Including
 (f) Vegetables
 (g) Melons
 (h) Fodder
 (i) Green Manure

Output of Silkworm Cocoons and Tea for Each Province, Municipality, and Autonomous Region

Units: 10,000 dan

(a) 地 区	(b) 一. 蚕茧合计	(c) 其 中		二. 茶叶合计 (f)
		(d) 桑 蚕 茧	(e) 柞 蚕 茧	
National Total 全国总计	622.1	582.2	119.8	685.2
Beijing 北 京	0.2	0.2	-	-
Tianjin 天 津	-	-	-	-
Hebei 河 北	1.8	1.8	0.3	-
Shanxi 山 西	2.8	2.8	-	-
Nei Monggol 内 蒙 古	1.8	-	1.8	-
Liaoning 辽 宁	88.7	8.2	80.5	-
Jilin 吉 林	1.4	-	1.4	-
Heilongjiang 黑 龙 江	2.9	-	2.9	-
Shanghai 上 海	0.3	0.3	-	-
Jiangsu 江 苏	88.8	88.8	-	12.5
Zhejiang 浙 江	120.8	120.8	-	178.7
Anhui 安 徽	8.2	8.2	-	74.5
Fujian 福 建	0.1	0.1	-	38.1
Jiangxi 江 西	0.5	0.5	-	23.4
Shandong 山 东	25.6	18.3	7.3	2.0
Henan 河 南	18.6	2.2	8.4	2.1
Hubei 湖 北	14.2	12.2	1.9	24.3
Hunan 湖 南	4.5	4.5	-	129.5
Guangdong 广 东	45.4	45.9	0.4	27.2
Guangxi 广 西	4.9	4.7	-	18.9
Sichuan 四 川	188.2	179.8	8.4	85.8
Guizhou 贵 州	0.7	0.2	0.4	19.2
Yunnan 云 南	1.7	1.7	-	60.7
Xizang 西 藏	-	-	-	-
Shaanxi 陕 西	0.4	0.2	0.1	2.1
Gansu 甘 肃	-	-	-	0.1
Qinghai 青 海	-	-	-	-
Ningxia 宁 夏	-	-	-	-
Xinjiang 新 疆	1.4	1.4	-	-

Provided by Planning Bureau, Ministry of Agriculture

- Key: (a) Place
 (b) 1. Total cocoons
 (c) Including
 (d) Mulberry Cocoons
 (e) Tussah Cocoons
 (f) 2. Total tea

Output of Fruit for Each Province, Municipality and Autonomous Region

Units: 10,000 dan

(a)	地 区	本 报 (b) 合 计	(c) 其 中									
			(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)
National Total	全国总计	15,601.7	252.5	6,011.5	1,595.1	3,106.0	101.1	795.6	1,011.0	200.0	196.0	295.0
Beijing	北 京	295.9	-	81.9	-	94.7	-	4.7	41.2	-	-	14.7
Tianjin	天 津	65.1	-	21.4	-	18.5	-	3.9	8.7	-	-	3.2
Hebei	河 北	1,992.1	-	479.1	-	984.9	-	254.4	91.5	-	-	17.9
Shanxi	山 西	606.4	-	214.0	-	121.1	-	88.1	93.5	-	-	10.3
Nei Monggol	内 蒙 古	59.9	-	18.0	-	9.7	-	-	-	-	-	3.3
Liaoning	辽 宁	1,847.7	-	1,401.2	-	324.0	-	-	-	-	-	16.4
Jilin	吉 林	76.7	-	15.9	-	32.2	-	-	-	-	-	3.6
Heilongjiang	黑 龙 江	49.1	-	6.4	-	-	-	-	-	-	-	0.7
Shanghai	上 海	50.4	-	0.4	1.1	35.5	-	-	-	-	-	0.6
Jiangsu	江 苏	447.7	-	141.9	37.2	204.0	-	5.4	6.6	-	-	8.0
Zhejiang	浙 江	448.1	-	4.3	241.2	94.0	-	7.5	18.5	-	-	-
Anhui	安 徽	217.3	-	48.2	1.6	168.4	-	16.3	10.7	-	-	14.4
Fujian	福 建	309.0	27.2	0.1	91.3	16.4	0.0	-	11.0	40.0	115.1	0.6
Jiangxi	江 西	141.7	-	-	87.6	26.9	-	-	5.6	-	-	-
Shandong	山 东	3,547.3	-	2,439.0	-	542.7	-	219.5	110.4	-	-	32.0
Henan	河 南	1,045.0	-	525.2	-	82.3	-	105.8	255.4	-	-	20.7
Hubei	湖 北	209.4	-	7.9	43.7	53.7	-	6.1	54.9	-	-	1.0
Hunan	湖 南	265.0	-	-	150.4	49.5	-	11.4	4.9	-	-	0.6
Guangdong	广 东	836.8	182.0	-	239.7	13.3	82.1	-	15.9	136.1	29.5	-
Guangxi	广 西	553.2	33.4	-	210.5	27.4	80.1	3.6	18.3	30.5	54.0	-
Sichuan	四 川	758.9	-	56.7	469.2	95.5	-	-	-	-	-	-
Guizhou	贵 州	124.6	4.3	3.0	10.2	33.7	-	0.9	10.2	-	-	1.1
Yunnan	云 南	278.1	5.0	26.9	0.2	134.9	10.3	0.3	11.4	0.0	0.4	0.6
Xizang	西 藏	0.9	-	0.2	-	-	-	-	-	-	-	-
Shaanxi	陕 西	588.5	-	253.0	4.1	16.3	-	54.0	209.0	-	-	2.0
Gansu	甘 肃	221.0	-	122.1	2.3	54.0	-	0.6	12.2	-	-	0.7
Qinghai	青 海	20.9	-	11.0	-	8.0	-	-	-	-	-	0.1
Ningxia	宁 夏	46.0	-	32.5	-	4.2	-	3.6	-	-	-	1.8
Xinjiang	新 疆	399.5	-	93.0	-	30.6	-	-	-	-	-	141.7

Provided by Planning Bureau, Ministry of Agriculture

- Key: (a) Place (h) Pineapples
 (b) Total Fruit (i) Red Dates
 (c) Including (j) Persimmons
 (d) Bananas (k) Lichees
 (e) Apples (l) Longans
 (f) Citrus (m) Grapes
 (g) Pears

Mulberry Grove and Oak Slope Area in Each Province, Municipality and Autonomous Region

Units: 10,000 mu

地 区 (a)	(b) 桑 园 面 积		(c) 坡 地 面 积		
	合 计 (d)	其 (e) 中 当年新增面积	合 计 (d)	其 (e) 中	
				当年新增面积	当年新增面积
		(f)		(g)	(f)
National Total 全国总计	472.9	72.2	1,540.9	890.8	27.4
Beijing 北 京	0.6	-	-	-	-
Tianjin 天 津	-	-	-	-	-
Hebei 河 北	10.3	0.4	15.4	1.8	0.2
Shanxi 山 西	15.1	7.5	1.5	0.5	0.2
Nei Monggol 内 蒙 古	0.1	-	250.7	27.0	1.4
Liaoning 辽 宁	1.3	0.4	780.0	544.0	19.6
Jilin 吉 林	0.4	0.1	31.8	12.6	0.7
Heilongjiang 黑 龙 江	0.3	0.1	42.5	29.5	4.0
Shanghai 上 海	0.2	-	-	-	-
Jiangsu 江 苏	95.8	21.7	-	-	-
Zhejiang 浙 江	126.8	5.0	-	-	-
Anhui 安 徽	27.4	4.7	-	-	-
Fujian 福 建	0.7	0.1	-	-	-
Jiangxi 江 西	5.5	2.5	-	-	-
Shandong 山 东	23.3	0.7	122.3	77.3	-
Henan 河 南	5.9	0.4	247.7	180.8	4.7
Hubei 湖 北	30.7	3.1	31.1	21.0	-
Hunan 湖 南	10.7	1.3	-	-	-
Guangdong 广 东	23.6	2.0	-	-	-
Guangxi 广 西	3.5	0.4	0.2	0.1	-
Sichuan 四 川	49.6	7.0	5.0	1.5	0.4
Guizhou 贵 州	1.7	0.1	0.1	1.0	-
Yunnan 云 南	3.0	0.0	-	-	-
Xizang 西 藏	-	-	-	-	-
Shaanxi 陕 西	22.2	10.5	4.2	0.2	0.2
Gansu 甘 肃	0.3	0.2	0.4	-	-
Qinghai 青 海	-	-	-	-	-
Ningxia 宁 夏	-	-	-	-	-
Xinjiang 新 疆	3.1	0.6	-	-	-

Provided by Planning Bureau, Ministry of Agriculture

Key: (a) Place
 (b) Mulberry Grove Area
 (c) Oak Slope Area
 (d) Total
 (e) Including
 (f) Current year additions
 (g) Current year area used

Fruit Orchard Area in Each Province,
Municipality, and Autonomous Region

Average Per Capital Output of Major
Farm Products by Each Province, Municipality and Autonomous Region

Units: 10,000 mu

Units: 10,000 mu

地 区 (a)	总 增 产 量 (b)		地 区 (a)	总 食 (b) (斤/人) (c)	总 足 (d) (斤/人) (c)	总 利 (e) (斤/人) (c)	(f)		
	合 计 (c)	其中: 当年 新增面积 (d)					平 均 (斤/人) (c)	水产品 (g) (斤/人) (c)	
National Total	全国总计	2,894.8	127.1	全国总计	657	8.90	29.83	25.49	9.31
Beijing	北 京	25.0	7.3	北 京	664	0.10	4.00	29.63	0.04
Tianjin	天 津	15.0	0.0	天 津	283	0.60	11.00	16.32	7.11
Hebei	河 北	263.8	10.8	河 北	804	0.51	17.82	18.34	3.07
Shanxi	山 西	185.6	5.9	山 西	582	5.30	8.71	18.45	0.96
Nei Monggol	内 蒙 古	45.4	1.6	内 蒙 古	540	—	36.79	25.29	1.50
Liaoning	辽 宁	263.5	24.0	辽 宁	661	1.25	17.44	27.97	25.41
Jilin	吉 林	30.0	1.1	吉 林	830	—	31.00	22.60	1.17
Heilongjiang	黑 龙 江	25.2	1.5	黑 龙 江	776	—	27.57	29.30	2.06
Shanghai	上 海	5.0	0.1	上 海	321	12.88	25.45	29.46	32.93
Jiangsu	江 苏	47.8	2.0	江 苏	841	10.06	21.46	35.45	14.77
Zhejiang	浙 江	95.7	6.6	浙 江	738	3.54	29.78	32.63	43.79
Anhui	安 徽	37.7	0.8	安 徽	726	6.35	40.34	19.78	3.22
Fujian	福 建	131.8	14.5	福 建	639	—	14.50	21.76	30.19
Jiangxi	江 西	31.2	5.0	江 西	772	2.05	12.97	24.60	6.22
Shandong	山 东	368.8	12.2	山 东	630	10.38	30.70	26.22	10.06
Henan	河 南	198.9	3.4	河 南	630	0.67	15.25	13.13	0.82
Hubei	湖 北	79.7	1.7	湖 北	725	14.97	16.00	22.92	6.40
Hunan	湖 南	127.2	6.0	湖 南	816	3.53	13.44	37.47	6.71
Guangdong	广 东	82.6	12.0	广 东	568	—	20.92	25.85	24.20
Guangxi	广 西	70.1	5.2	广 西	843	0.04	7.06	24.22	6.57
Sichuan	四 川	129.0	11.7	四 川	702	1.78	19.75	30.29	1.13
Guizhou	贵 州	8.6	0.2	贵 州	405	0.04	24.24	22.50	0.41
Yunnan	云 南	48.7	3.2	云 南	573	0.08	6.70	22.01	1.02
Xizang	西 藏	1.1	—	西 藏	522	—	12.00	61.29	0.11
Shaanxi	陕 西	152.2	2.1	陕 西	527	4.20	11.00	18.05	0.10
Gansu	甘 肃	50.6	1.6	甘 肃	451	0.41	13.06	14.61	0.02
Qinghai	青 海	3.7	0.1	青 海	422	—	32.68	44.33	1.95
Ningxia	宁 夏	11.7	0.6	宁 夏	648	—	18.92	18.50	0.21
Xinjiang	新 疆	78.3	7.0	新 疆	603	17.57	32.59	29.42	0.96

Provided by Planning Bureau,
Ministry of Agriculture

Provided by State Statistical Bureau

Key: (a) Place
(b) Fruit Orchard Area
(c) Total
(d) Including Area Added in
Current Year

Note: Figures are according to yearly
average per capita income

Key: (a) Place (e) Oil-bearing
(b) Grain crops
(c) (Jin/person) (f) Pork, Beef
(d) Cotton & Mutton
(g) Aquatic Products

Forestry

Afforested Area and Area of Different Kinds of Forests in Each Province, Municipality and Autonomous Region

Units: 10,000 mu

地 区 (a)	造林总面积 (b)	其中: 国营 (c) 造林面积	(d) 其 中				
			用材林面积 (e)	经济林面积 (f)	防护林面积 (g)	其他林面积 (h)	
National Total	全国总计	8,165.1	852.7	3,790.8	945.7	955.3	467.3
Beijing	北 京	41.2	1.9	29.8	4.9	2.1	0.2
Tianjin	天 津	1.3	0.1	1.1	0.1	0.1	—
Hebei	河 北	220.9	20.8	173.3	18.2	17.6	12.8
Shanxi	山 西	334.9	37.7	178.3	37.1	118.8	0.7
Nei Monggol	内 蒙 古	571.8	131.5	286.7	12.1	304.7	47.3
Liaoning	辽 宁	330.5	28.3	222.9	20.4	58.9	29.3
Jilin	吉 林	283.3	48.3	158.3	3.8	94.1	27.9
Heilongjiang	黑 龙 江	678.6	226.4	282.2	3.1	77.2	194.1
Shanghai	上 海	0.3	0.2	—	—	0.2	0.1
Jiangsu	江 苏	30.4	5.7	22.6	2.1	4.4	1.3
Zhejiang	浙 江	149.8	3.3	94.4	33.4	0.8	21.2
Anhui	安 徽	150.6	18.6	116.8	28.3	1.1	4.6
Fujian	福 建	206.3	15.8	126.1	45.8	7.5	27.4
Jiangxi	江 西	289.3	48.6	142.6	96.8	7.1	43.8
Shandong	山 东	84.3	2.4	56.4	13.2	11.1	3.8
Henan	河 南	216.0	12.5	131.6	80.3	8.8	15.3
Hubei	湖 北	261.5	17.8	187.1	77.4	2.0	15.0
Hunan	湖 南	305.2	19.7	198.3	95.5	3.5	7.9
Guangdong	广 东	458.6	24.4	378.3	36.7	21.5	22.1
Guangxi	广 西	250.0	30.8	158.6	82.7	3.0	14.7
Sichuan	四 川	252.7	18.5	263.5	78.4	4.4	14.4
Guizhou	贵 州	197.5	10.6	154.5	39.5	1.1	2.4
Yunnan	云 南	289.2	35.6	202.2	78.5	2.2	8.3
Xizang	西 藏	2.5	0.6	2.5	—	—	—
Shaanxi	陕 西	477.4	60.2	249.1	77.9	137.2	13.2
Gansu	甘 肃	90.1	24.9	50.1	8.0	28.9	9.1
Qinghai	青 海	14.8	1.3	7.9	0.2	4.1	1.8
Ningxia	宁 夏	27.0	5.7	8.8	0.5	12.8	4.9
Xinjiang	新 疆	30.2	9.4	5.7	2.7	18.1	9.7

Provided by State Statistical Bureau

- Key: (a) Place (g) Shelter Forest Area
 (b) Afforested Area (h) Other Forest Area
 (c) Including: State-owned afforested area
 (d) Including
 (e) Timber Forest Area
 (f) Economic Forest Area

Output of Timber by Each Province,
Municipality and Autonomous Region

Units: 10,000 m³

Output of Sawed Lumber for Each Province,
Municipality and Autonomous region

Units: 10,000 m³

Place		1981年	1980年	1981 as a percentage of 1980	Place		1981年	1980年	1981 as a percentage of 1980
地区					地区				
National Total	全国总计	4.942	5.359	92	全国总计	1.201	1.369	88	
Beijing	北京	---	---	---	北京	50	55	91	
Tianjin	天津	---	---	---	天津	25	26	96	
Hebei	河北	10	14	71	河北	26	26	100	
Shanxi	山西	12	15	80	山西	5	7	71	
Nei Monggol	内蒙古	427	414	103	内蒙古	49	47	104	
Liaoning	辽宁	44	51	86	辽宁	50	67	87	
Jilin	吉林	614	633	97	吉林	160	161	100	
Heilongjiang	黑龙江	1.540	1.624	95	黑龙江	320	344	93	
Shanghai	上海	---	---	---	上海	66	57	116	
Jiangsu	江苏	---	---	---	江苏	47	47	100	
Zhejiang	浙江	84	89	93	浙江	33	34	97	
Anhui	安徽	36	46	78	安徽	13	19	68	
Fujian	福建	367	363	101	福建	60	67	101	
Jiangxi	江西	270	302	89	江西	13	21	62	
Shandong	山东	4	4	100	山东	29	25	116	
Henan	河南	11	16	73	河南	26	25	104	
Hubei	湖北	66	74	89	湖北	21	30	70	
Hunan	湖南	200	236	87	湖南	10	12	83	
Guangdong	广东	327	341	96	广东	31	37	84	
Guangxi	广西	160	178	90	广西	11	12	92	
Sichuan	四川	344	416	83	四川	75	93	81	
Guizhou	贵州	83	90	92	贵州	11	12	92	
Yunnan	云南	200	246	81	云南	53	56	95	
Xizang	西藏	10	24	79	西藏	9	11	82	
Shaanxi	陕西	33	56	60	陕西	15	20	75	
Gansu	甘肃	46	61	74	甘肃	19	19	100	
Qinghai	青海	6	6	100	青海	5	5	100	
Ningxia	宁夏	1	1	100	宁夏	---	---	---	
Xinjiang	新疆	52	59	88	新疆	17	14	121	

Provided by Planning Bureau, Ministry of Forestry

Bamboo Output in Each Province,
Municipality and Autonomous
Region

Output of Plywood in Each Province,
Municipality, and Autonomous Region

Units: 10,000 lengths				Units: 10,000 m ³			
Place	1981年	1980年	1981 as a percent- age of 1980	Place	1981年	1980年	1981 as a percentage of 1980
National Total	8.654	9.621	90	全国总计	25.11	33.24	106
Beijing				北京	2.54	2.61	97
Tianjin				天津	1.08	1.01	107
Hebei				河北	0.65	0.66	97
Shanxi				山西	0.04	-	
Nei Monggol				内蒙古	0.26	0.11	236
Liaoning				辽宁	0.51	0.49	104
Jilin				吉林	4.00	4.06	110
Heilongjiang				黑龙江	0.20	0.06	163
Shanghai				上海	0.54	0.41	102
Jiangsu		110		江苏	0.59	0.74	80
Zhejiang	2.123	1.591	133	浙江	0.70	0.56	121
Anhui	0.62	0.62	91	安徽	0.47	0.40	118
Fujian	1.103	1.110	99	福建	2.00	1.54	130
Jiangxi	1.082	1.063	91	江西	1.00	1.77	102
Shandong				山东	0.54	0.57	95
Henan	1	24	4	河南	0.03	0.01	300
Hubei	445	424	106	湖北	0.23	0.31	74
Hunan	1.424	1.591	90	湖南	0.50	0.48	121
Guangdong	572	566	90	广东	1.57	1.29	113
Guangxi	607	1.041	39	广西	0.54	0.49	110
Sichuan	110	90	112	四川	0.23	0.54	43
Guizhou	126	150	85	贵州			
Yunnan	170	291	62	云南	0.06	0.48	125
Xizang				西藏			
Shaanxi				陕西	0.22	0.30	73
Gansu				甘肃	0.06	0.07	114
Qinghai				青海	0.10		
Ningxia				宁夏	0.01		
Xinjiang				新疆			

Provided by Planning Bureau, Ministry of Forestry

Output of Wood Shavings Board in Each Province, Municipality, and Autonomous Region

Units: 10,000 m³

Output of Hard Fiberboard in Each Province, Municipality, and Autonomous Region

Units: 10,000 m³

地 区 (a)	1981年	1980年	1981年为 1980年 % (b)	地 区 (a)	1981年	1980年	1981年为 1980年 % (b)
National Total 全国总计	7.67	7.82	98	全国总计	54.83	51.59	110
Beijing 北 京	1.00	1.20	150	北 京	2.48	2.19	113
Tianjin 天 津	-	-	-	天 津	1.28	1.28	100
Hebei 河 北	0.16	0.15	107	河 北	1.47	0.92	160
Shanxi 山 西	-	-	-	山 西	0.93	1.29	72
Nei Monggol 内 蒙 古	-	-	-	内 蒙 古	1.50	1.50	100
Liaoning 辽 宁	0.43	0.41	105	辽 宁	3.50	3.48	103
Jilin 吉 林	0.36	0.37	97	吉 林	3.79	3.33	114
Heilongjiang 黑 龙 江	0.51	1.00	51	黑 龙 江	6.72	7.00	96
Shanghai 上 海	1.43	1.33	108	上 海	5.29	5.43	97
Jiangsu 江 苏	0.61	0.67	91	江 苏	2.67	2.60	114
Zhejiang 浙 江	0.25	0.71	35	浙 江	3.20	2.45	131
Anhui 安 徽	0.06	0.04	125	安 徽	1.47	1.42	104
Fujian 福 建	0.30	0.30	100	福 建	2.34	2.20	106
Jiangxi 江 西	-	-	-	江 西	1.12	0.95	118
Shandong 山 东	1.00	0.77	130	山 东	3.64	3.15	116
Henan 河 南	0.21	0.02	1050	河 南	1.11	1.03	108
Hubei 湖 北	0.21	0.11	191	湖 北	2.48	1.29	192
Hunan 湖 南	0.01	0.05	20	湖 南	1.21	1.34	90
Guangdong 广 东	0.20	0.31	65	广 东	4.27	3.53	121
Guangxi 广 西	0.31	0.25	124	广 西	0.82	0.78	106
Sichuan 四 川	0.08	1.06	8	四 川	1.28	1.25	102
Guizhou 贵 州	-	0.08	-	贵 州	0.18	0.28	65
Yunnan 云 南	-	0.03	-	云 南	0.95	0.90	106
Xizang 西 藏	0.01	-	-	西 藏	-	-	-
Shaanxi 陕 西	0.08	0.06	140	陕 西	1.50	1.16	137
Gansu 甘 肃	0.03	0.02	150	甘 肃	0.28	0.24	117
Qinghai 青 海	-	-	-	青 海	0.26	0.26	100
Ningxia 宁 夏	0.02	0.02	100	宁 夏	0.31	0.08	388
Xinjiang 新 疆	0.03	0.01	300	新 疆	0.21	0.21	100

Provided by Planning Bureau, Ministry of Forestry

Key: (a) Place
(b) 1981 as a percentage of 1980

Rosin Output in Each Province,
Municipality, and Autonomous
Region

Tannin Extract Output in Each Province
Municipality, and Autonomous Region

Units: Tons								
(a)			1981年为 (b) 1980年%	(a)			1981年为 (b) 1980年%	
地 区	1981年	1980年		地 区	1981年	1980年		
National Total	全国总计	496,214	327,323	124	全国总计	46,158	26,314	111
Beijing	北 京				北 京			
Tianjin	天 津				天 津			
Hebei	河 北				河 北		1,293	
Shanxi	山 西	17			山 西	539	416	129
Nei Monggol	内 蒙 古				内 蒙 古	7,783	7,961	98
Liaoning	辽 宁				辽 宁	935	855	109
Jilin	吉 林	1,006	883	114	吉 林			
Heilongjiang	黑 龙 江				黑 龙 江			
Shanghai	上 海				上 海			
Jiangsu	江 苏				江 苏			
Zhejiang	浙 江	5,187	4,433	117	浙 江	3,830	1,713	119
Anhui	安 徽	3,820	2,931	149	安 徽	563	402	125
Fujian	福 建	78,562	62,577	126	福 建	679	602	113
Jiangxi	江 西	46,332	42,153	110	江 西			
Shandong	山 东				山 东	1,251	1,299	104
Henan	河 南				河 南	2,513	1,588	167
Hubei	湖 北	5	5	100	湖 北	4,822	4,113	117
Hunan	湖 南	18,122	17,487	96	湖 南	1,844	1,179	156
Guangdong	广 东	135,621	104,363	130	广 东	1,251	1,359	92
Guangxi	广 西	104,179	81,521	130	广 西	7,996	7,177	110
Sichuan	四 川	4,041	3,348	121	四 川	1,815	1,063	171
Guizhou	贵 州	2,451	1,992	123	贵 州	463	527	88
Yunnan	云 南	8,641	6,531	132	云 南	2,085	1,427	146
Xizang	西 藏				西 藏			
Shaanxi	陕 西	40	39	103	陕 西	7,642	3,448	106
Gansu	甘 肃				甘 肃			
Qinghai	青 海				青 海			
Ningxia	宁 夏				宁 夏			
Xinjiang	新 疆				新 疆			

Provided by Planning Bureau, Ministry of Forestry

Key: (a) Place
(b) 1981 as a percentage of 1980

Shellac Output in Each Province,
Municipality, and Autonomous Region

Units: Tons

(a)	1981年	1980年	1981年为 1980年%
National Total	1,005	2,124	51
Beijing			
Tianjin			
Hebei			
Shanxi			
Nei Monggol			
Liaoning			
Jilin			
Heilongjiang			
Shanghai			
Jiangsu			
Zhejiang			
Anhui			
Fujian	41	41	100
Jiangxi	6		
Shandong			
Henan			
Hubei			
Hunan	1	4	25
Guangdong	100	104	179
Guangxi	30	30	43
Sichuan	53	100	53
Guizhou	7	3	260
Yunnan	703	1,703	42
Xizang			
Shaanxi			
Gansu			
Qinghai			
Ningxia			
Xinjiang			

Provided by Planning Bureau, Ministry of
Forestry

Key: (a) Place
(b) 1981 as a percentage of 1980

Raw Lacquer, Tea Oil Seeds, Tung Oil
Seeds, Chinese Tallow Seeds, and Pine
Resin Output for Each Province, Muni-
cipality, and Autonomous Region

Units: Tons

(a)	(b)	(c)	(d)	(e)	(f)
National Total	5.9	719.7	1,307.5	190.6	1,124.6
Beijing					
Tianjin					
Hebei					
Shanxi					
Nei Monggol					
Liaoning					
Jilin					
Heilongjiang					
Shanghai					
Jiangsu		0.2	0.2	0.1	
Zhejiang		15.6	87.2	30.4	13.7
Anhui		14.1	18.2	8.0	9.0
Fujian		6.5	60.5	0.6	200.3
Jiangxi		12.2	413.0	4.8	91.4
Shandong					
Henan	0.1	19.3	3.3	3.7	
Hubei	1.1	89.0	28.4	75.0	
Hunan	0.1	77.0	902.7	10.7	66.0
Guangdong		3.5	24.1		373.3
Guangxi		48.0	139.7	0.3	344.8
Sichuan	0.0	277.0	12.2	30.0	11.6
Guizhou	0.0	10.2	12.5	10.6	6.0
Yunnan	0.5	26.7	4.4	6.0	10.4
Xizang					
Shaanxi	2.1	33.2	0.3	0.3	0.2
Gansu	0.2	0.3			
Qinghai					
Ningxia					
Xinjiang					

Provided by State Statistical
Bureau

Key: (a) Place
(b) Lacquer
(c) Tea Oil Seeds
(d) Tung Oil Seeds
(e) Chinese Tallow
(f) Pine Resin

Coir Fiber, Dried Bamboo Shoot, Walnut, and Chinese Chestnut Output in Each Province, Municipality, and Autonomous Region
Units: 10,000 dan

地 区	椰 子	竹 笋	华 果	中 国 山 榧
(a)	(b)	(c)	(d)	(e)
National Total 全国总计	43.8	38.6	213.1	182.7
Beijing 北 京			18.2	3.2
Tianjin 天 津			8.8	8.1
Hebei 河 北			17.6	22.1
Shanxi 山 西			27.8	
Nei Monggol 内 蒙 古				
Liaoning 辽 宁			1.4	8.8
Jilin 吉 林				8.2
Heilongjiang 黑 龙 江				
Shanghai 上 海				
Jiangsu 江 苏		8.8		2.8
Zhejiang 浙 江	1.1	11.8	9.9	8.8
Anhui 安 徽	8.3	8.5	8.4	5.8
Fujian 福 建	3.6	11.1		8.8
Jiangxi 江 西	3.2	2.8		1.8
Shandong 山 东			5.4	11.7
Henan 河 南			9.2	9.1
Hubei 湖 北	4.2	8.3	3.8	13.8
Hunan 湖 南	5.1	3.7	8.5	3.7
Guangdong 广 东	8.2	8.2		8.4
Guangxi 广 西	1.1	8.8	8.3	2.3
Sichuan 四 川	5.5	2.5	15.1	1.8
Guizhou 贵 州	8.8	8.8	5.1	2.1
Yunnan 云 南	18.4	3.8	48.4	4.7
Xizang 西 藏			8.8	
Shaanxi 陕 西	2.5		31.8	2.3
Gansu 甘 肃			13.5	
Qinghai 青 海			8.2	
Ningxia 宁 夏				
Xinjiang 新 疆			2.8	

Provided by State Statistical Bureau

Key: (a) Place
(b) Coir Fiber
(c) Dried Bamboo Shoots
(d) Walnuts
(e) Chinese Chestnuts

Livestock Products Output in Each Province, Municipality, and Autonomous Region

地 区 (a)	(b) 一、当年出栏数		二、当年出栏的山羊	三、当年出栏的猪	(g) 猪、牛、羊	
	A (c) 头 (10,000)	(d) %	(e) 头 (10,000)	(f) 头 (10,000)	合 计 (h)	猪肉产量 (i)
National Total 全国总计	19,094.7	63.81	201.8	4,401.4	2,521,749.0	2,376,852.7
Beijing 北 京	218.8	93.2	0.3	13.1	26,343.6	26,434.1
Tianjin 天 津	94.7	83.9	0.3	9.6	11,362.0	11,295.0
Hebei 河 北	743.8	57.5	1.4	244.4	95,858.0	96,449.0
Shanxi 山 西	202.9	57.0	1.4	179.0	41,072.6	38,180.4
Nei Monggol 内 蒙 古	227.1	43.0	36.8	642.6	47,716.0	28,710.4
Liaoning 辽 宁	994.3	82.8	6.7	24.0	99,263.0	96,049.0
Jilin 吉 林	328.2	55.4	9.8	25.0	50,229.0	47,875.2
Heilongjiang 黑 龙 江	306.7	56.4	11.3	87.1	85,305.0	61,338.1
Shanghai 上 海	331.0	129.06	0.4	12.2	33,983.0	33,780.0
Jiangsu 江 苏	1,887.6	80.34	3.6	324.0	211,855.0	206,262.7
Zhejiang 浙 江	1,262.3	89.92	2.8	42.5	25,544.3	124,005.8
Anhui 安 徽	649.7	58.31	8.1	295.6	87,322.4	81,790.2
Fujian 福 建	415.1	59.91	2.6	24.0	55,218.3	54,094.2
Jiangxi 江 西	714.3	78.16	4.8	5.9	79,283.7	78,570.8
Shandong 山 东	1,290.8	61.38	11.5	668.7	192,515.0	182,750.0
Henan 河 南	911.7	41.5	8.3	332.0	96,668.7	88,550.0
Hubei 湖 北	996.9	62.7	8.2	54.2	167,829.3	165,776.0
Hunan 湖 南	1,795.4	83.9	8.4	34.5	199,648.0	197,413.0
Guangdong 广 东	1,858.4	54.9	9.5	9.2	149,635.0	147,948.0
Guangxi 广 西	514.7	49.0	0.5	14.2	66,538.0	65,180.6
Sichuan 四 川	3,327.0	64.64	48.3	362.6	278,169.0	263,702.0
Guizhou 贵 州	451.6	50.34	4.5	56.1	63,233.4	60,918.7
Yunnan 云 南	631.9	60.34	12.1	47.2	79,340.3	67,175.0
Xizang 西 藏	4.9		25.5	252.6	11,379.5	204.0
Shaanxi 陕 西	603.2	53.0	4.2	87.3	61,346.5	49,385.6
Gansu 甘 肃	254.2	60.0	8.0	92.3	29,236.1	24,617.0
Qinghai 青 海	25.5	52.0	21.0	252.5	16,818.0	4,118.0
Ningxia 宁 夏	30.0	55.1	0.5	42.0	3,945.5	3,077.0
Xinjiang 新 疆	55.2	65.2	26.1	571.2	26,320.2	6,603.5

Provided by Planning Bureau, Ministry of Agriculture

- Key:
- (a) Place
 - (b) 1. Number of Fattened Hogs Removed From Inventory in Current Year
 - (c) Number of Head (10,000 head)
 - (d) Removal Rate
 - (e) 2. Beef Cattle Slaughtered for Personal Use or Sold in Current Year (10,000 head)
 - (f) 3. Slaughter Sheep Sold or Slaughtered for Personal Use in Current Year (10,000 head)
 - (g) 4. Output of Pork, Beef, and Mutton
 - (h) Total
 - (i) Pork output

[Table continued]

肉产量(万斤)		五. 绵 羊	六. 山 羊	七. 山 羊	八. 牛 奶	九. 羊 奶
牛肉产量 (a)	羊肉产量 (b)	产 量 (万斤) (c)	产 量 (万斤) (d)	产 量 (万斤) (e)	产 量 (万斤) (f)	产 量 (万斤) (g)
49.682.4	99.212.9	27.812.4	2.814.0	752.3	794.621.4	51.579.2
47.9	264.4	29.8	30.0	2.4	95.250.0	107.5
96.9	237.0	21.0	1.0	1.5	5.229.7	30.9
999.9	4.299.9	1.059.7	130.3	52.8	5.342.8	2.071.5
296.9	2.567.3	788.2	201.1	75.1	5.346.4	2.023.0
6.229.9	12.774.7	9.479.7	889.5	291.8	23.739.6	1.842.0
923.9	472.0	1.829.8	48.7	16.1	91.867.0	2.957.9
1.714.8	629.1	1.941.0	2.2	0.1	5.297.1	891.9
2.220.4	1.627.3	2.115.1	7.1	4.9	20.290.5	2.210.3
47.0	156.0	29.0	14.4		16.251.3	
685.2	4.967.0	489.2	29.1		8.959.9	101.0
150.1	1.090.6	878.1	29.0		8.299.6	295.9
1.034.2	4.582.0	879.2	29.6	0.1	1.469.2	2.8
434.0	689.1				3.263.4	59.1
586.6	146.2		1.0		2.214.0	
2.467.0	7.399.0	1.951.0	187.0	20.0	2.766.0	7.729.0
1.263.2	6.715.5	2.561.2	166.0	10.4	2.002.0	2.962.9
782.2	1.370.1	35.5	5.0	2.0	5.106.4	
1.290.3	621.3	0.7	5.7		1.714.2	
1.490.0	267.0				5.409.0	20.0
1.001.6	255.0	0.7	0.1		1.426.7	
7.219.0	7.148.0	529.2	22.5		29.494.5	200.2
672.2	1.642.5	78.9	1.0		1.108.6	0.0
1.794.2	1.270.2	290.4	18.4		4.123.4	20.4
4.612.0	6.411.5	1.484.0	189.0	62.3	17.021.3	9.593.0
469.0	1.490.0	620.0	195.5	79.0	3.421.3	10.750.0
1.001.5	2.527.0	1.746.0	183.0	52.3	5.471.7	263.0
4.420.0	8.080.0	2.238.0	84.0	21.3	24.296.4	675.4
69.4	790.1	500.9	62.5	24.0	861.8	96.1
5.190.0	14.518.7	6.819.0	600.1	50.2	14.129.0	2.271.0

Key: (a) Beef Output
 (b) Mutton Output
 (c) 5. Wool output (10,000 jin)
 (d) 6. Goat Hair Output (10,000 jin)
 (e) 7. Cashmere Output (10,000 jin)
 (f) 8. Cow's Milk Output (10,000 jin)
 (g) 9. Goat's Milk Output (10,000 jin)

Status of Livestock Raising in Each Province, Municipality, and Autonomous Region (1)

Units: 10,000 head

(a) 地 区	(b) 大 牲 畜			(g) 1. 牛		
	(c) 总 头 数	(d) 中		(h) 总 头 数	(d) 中	
		农 业 用 畜	役 畜		产 乳 母 牛	产 乳 母 牛
		(e)	(f)		(i)	(j)
National Total 全国总计	9,784.1	5,478.5	3,894.5	7,338.1	2,280.1	888.9
Beijing 北 京	36.7	19.2	7.1	9.5	3.5	1.4
Tianjin 天 津	18.7	14.7	4.3	4.1	1.5	0.6
Hebei 河 北	325.7	247.8	78.6	189.7	5.8	18.3
Shanxi 山 西	218.7	188.9	52.3	188.5	31.8	18.4
Nei Monggol 内 蒙 古	678.9	182.8	284.2	334.7	115.4	58.1
Liaoning 辽 宁	285.6	177.3	78.4	117.8	42.3	12.7
Jilin 吉 林	231.8	145.2	71.7	118.5	38.4	18.8
Heilongjiang 黑 龙 江	258.3	151.8	88.7	183.5	41.1	11.7
Shanghai 上 海	4.2	2.6	1.2	8.2	3.2	0.7
Jiangsu 江 苏	187.4	84.4	29.5	82.9	25.2	8.9
Zhejiang 浙 江	82.7	58.1	18.4	82.7	18.4	8.4
Anhui 安 徽	113.7	104.8	187.2	274.5	83.1	31.7
Fujian 福 建	188.8	74.4	32.5	188.5	32.5	18.1
Jiangxi 江 西	289.6	167.2	88.8	285.4	35.8	28.8
Shandong 山 东	761.3	289.5	71.8	213.7	47.8	18.5
Henan 河 南	687.8	488.9	221.2	353.3	132.3	35.7
Hubei 湖 北	385.4	219.1	82.4	288.2	88.5	28.8
Hunan 湖 南	227.8	184.2	184.7	325.8	184.5	29.4
Guangdong 广 东	426.7	384.5	147.8	426.7	147.8	57.7
Guangxi 广 西	447.8	384.3	148.3	428.1	142.1	58.2
Sichuan 四 川	865.4	384.7	388.8	812.4	285.1	123.4
Guizhou 贵 州	449.8	388.5	118.7	389.4	143.8	44.7
Yunnan 云 南	686.4	313.1	218.8	586.5	188.7	71.5
Xizang 西 藏	541.8	114.8	185.8	583.3	174.2	89.3
Shaanxi 陕 西	244.1	184.4	71.8	172.1	58.5	14.7
Gansu 甘 肃	412.8	242.1	123.8	229.5	71.7	31.1
Qinghai 青 海	589.9	45.2	185.1	584.1	178.7	78.2
Ningxia 宁 夏	88.5	44.8	17.8	18.8	8.2	1.8
Xinjiang 新 疆	487.7	163.7	142.4	263.7	81.5	48.2

Key: (a) Place (g) 1. Cattle
 (b) Large Livestock Animals (h) Total
 (c) Total Head (i) Reproductive Females
 (d) Including (j) Number of Calves Born
 (e) Farm Draft Animals in Current Year
 (f) Total Number of Reproductive Females

[Table continued]

(a) 牛			(f) ② 良种及改良种乳牛		
(b) 总头数	其 (c) 中		(b) 总头数	其 (c) 中	
	④ 繁殖母牛	⑤ 当年产犊数		④ 繁殖母牛	⑤ 当年产犊数
5,361.3	3,744.9	973.8	89.8	26.2	14.3
7.1	3.1	0.8	2.4	0.4	0.8
3.2	1.8	0.3	0.9	0.3	0.3
187.6	36.8	9.7	2.1	1.2	0.8
105.8	36.1	10.8	1.8	0.8	0.4
328.8	108.8	33.6	15.8	6.5	3.1
115.3	48.8	12.2	2.4	1.4	0.8
187.7	37.8	15.3	2.8	1.4	0.8
85.4	35.4	10.8	9.8	5.7	1.7
6.2	6.1	-	3.8	1.7	0.4
29.6	6.1	2.3	1.8	1.8	0.3
41.8	9.7	3.3	1.8	1.4	0.3
164.2	53.1	14.5	8.5	8.4	0.1
58.1	15.7	5.1	8.8	8.5	0.1
113.8	32.4	10.8	8.7	8.5	0.1
318.8	48.4	16.8	1.2	0.3	0.1
373.2	123.3	33.3	8.8	8.4	0.2
152.3	42.8	16.1	1.3	0.7	0.3
158.8	44.8	14.8	8.4	0.3	0.1
151.3	47.1	21.7	1.8	1.1	0.5
188.4	82.8	23.8	8.4	8.3	-
584.7	294.8	83.7	3.8	1.2	0.4
265.8	91.7	29.8	8.4	8.2	0.1
382.8	125.4	48.2	1.2	8.8	8.4
585.3	174.7	38.3	-	-	-
148.8	58.8	14.1	1.1	8.6	8.3
228.1	71.1	22.8	1.4	8.6	8.3
888.8	178.1	78.8	1.1	8.6	8.2
18.8	8.1	1.8	0.2	8.1	-
253.6	78.2	48.1	18.2	4.3	2.1

Key: (a) (1) Oxen
 (b) Total
 (c) Including
 (d) Reproductive Females
 (e) Calves Born in Current Year
 (f) (2) Hybrid and Improved Breed Milk Cows

Status of Livestock Raising in Each Province, Municipality, and Autonomous Region (2)

Units: 10,000 head

地 区 (a)	(b) ① 水 牛			(g) 2. 马		
	合 计 (c)	(d) 其 中		合 计 (c)	(d) 其 中	
		能繁殖母畜	当年生仔畜		能繁殖母畜	当年生仔畜
		(e)	(f)		(e)	(h)
National Total 全国总计	1,877.0	609	201.1	1,097.2	362.6	101.0
Be jing 北 京				7.2	2.5	0.5
T anjin 天 津				5.8	1.7	0.4
Hebei 河 北				72.0	22.0	4.1
Shanxi 山 西				19.0	8.1	1.3
Nei Monggol 内 蒙 古				178.8	52.9	21.8
Liaoning 辽 宁				59.8	21.1	4.0
Jilin 吉 林				81.8	29.5	7.0
Heilongjiang 黑 龙 江				135.9	44.4	10.1
Shanghai 上 海	3.0	1.4	0.3			
Jiangsu 江 苏	61.7	10.1	4.3	4.7	1.8	0.4
Zhejiang 浙 江	39.0	9.3	2.9			
Anhui 安 徽	111.6	29.6	7.1	19.4	8.5	1.8
Fujian 福 建	43.8	16.3	4.9	9.1		
Jiangxi 江 西	95.9	32.9	9.9			
Shandong 山 东	4.5	1.1	0.4	35.6	9.8	2.2
Henan 河 南	29.2	9.6	2.3	64.9	33.2	4.4
Hubei 湖 北	144.7	47.2	14.3	2.4	0.9	0.2
Hunan 湖 南	174.6	59.4	15.3	0.5	0.1	
Guangdong 广 东	273.5	90.8	35.5			
Guangxi 广 西	232.5	79.0	26.6	18.0	6.2	1.5
Sichuan 四 川	323.7	93.9	29.3	32.4	9.9	3.3
Guizhou 贵 州	133.1	52.0	14.8	49.9	15.8	5.0
Yunnan 云 南	202.4	62.5	22.9	71.7	23.4	6.1
Xizang 西 藏				27.1	7.9	2.0
Shaanxi 陕 西	3.0	0.9	0.3	11.4	5.0	0.9
Gansu 甘 肃				44.7	15.8	5.0
Qinghai 青 海				42.3	12.5	4.2
Ningxia 宁 夏				5.7	1.8	0.4
Xinjiang 新 疆				106.1	27.8	13.8

Key: (a) Place
 (b) (3) Water Buffalo
 (c) Total
 (d) Including
 (e) Reproductive Females
 (f) Calves Born in Current Year
 (g) 2. Horses
 (h) Foals Born in Current Year

[Table continued]

(a) 3. 驴			(f) 4. 骡		(g) 5. 骆驼			
合 计 (b)	(c) 其 中		合 计 (b)	(c) 其中, 当年 生 仔 畜 (e)		合 计 (b)	(c) 其 中	
	能繁殖母畜	当年生仔畜		能繁殖母畜	当年生仔畜			
	(d)	(e)					(d)	(e)
841.5	275.1	73.1	432.5	10.5		62.8	18.7	7.6
4.3	1.1	0.3	7.7	0.3				
3.8	1.1	0.3	8.0	0.2				
83.3	22.8	4.7	64.6	3.1	0.1			
45.5	14.2	3.1	47.7	1.9				
73.9	25.8	8.2	33.5	1.1	38.0	10.7	4.7	
47.0	18.0	3.7	40.3	1.1				
15.8	5.6	1.7	23.7	1.0				
5.0	1.2	0.2	6.1	0.2				
8.8	2.5	0.6	1.2					
30.8	4.8	2.6	7.2	0.3				
0.1			0.1					
75.1	16.0	4.0	26.9	1.0				
124.8	55.7	10.6	64.0	1.6				
4.3	1.0	0.2	0.5					
0.5	0.1		0.2					
0.1			0.6					
3.0	1.0	0.3	2.0					
			0.5					
15.4	4.7	1.5	22.8	1.1				
10.0	2.9	0.8	1.4					
36.8	14.5	3.4	23.8	1.0				
100.4	36.7	11.7	31.6	1.8	6.7	1.6	0.9	
15.6	5.4	1.4	8.1	0.5	2.8	0.5	0.3	
25.2	8.9	2.2	10.2	0.3	0.4	0.1	
111.3	27.5	11.8	1.8		14.8	3.8	1.7	

Key: (a) 3. Donkeys
 (b) Total
 (c) Including
 (d) Reproductive Females
 (e) Young born in current year
 (f) 4. Mules
 (g) 5. Camels

Status of Livestock Raising in Each Province, Municipality and Autonomous Region (3)

Units: 10,000 head

(a) 地 区	(b) 猪		(e) 三 羊		(g) 1. 山 羊		(h) 2. 绵 羊	
	合 计 (c)	其中: 能繁 母猪的母羊 (d)	合 计 (c)	其中: 能繁 母猪的母羊 (f)	合 计 (c)	其中: 能繁 母猪的母羊 (f)	合 计 (c)	其中: 能繁 母猪的母羊 (i)
National Total 全国总计	29,370.2	2,061.6	10,773.0	8,933.4	7,826.4	3,524.9	10,946.6	5,408.6
Beijing 北 京	210.9	18.8	57.9	24.2	47.5	20.0	10.4	4.2
Tianjin 天 津	84.3	5.9	52.0	22.9	34.7	17.3	17.3	5.6
Hebei 河 北	1,210.6	79.0	842.4	420.3	467.5	212.2	374.9	200.1
Shanxi 山 西	453.1	31.4	824.0	441.1	467.1	233.4	356.9	207.7
Nei Monggol 内 蒙 古	468.3	29.7	2,670.0	1,352.8	711.2	339.7	1,950.8	1,013.1
Liaoning 辽 宁	1,046.3	91.7	210.4	151.7	36.2	22.4	174.2	129.3
Jilin 吉 林	540.0	55.0	167.9	113.0	12.0	6.8	155.0	106.2
Heilongjiang 黑 龙 江	615.4	62.8	343.0	290.1	38.6	13.1	304.4	195.0
Shanghai 上 海	266.2	23.8	38.4	26.9	27.1	19.0	11.3	7.9
Jiangsu 江 苏	1,935.2	138.0	529.7	229.9	426.4	166.0	103.3	63.0
Zhejiang 浙 江	1,344.7	81.0	280.6	173.2	89.3	53.6	199.3	119.6
Anhui 安 徽	1,034.0	47.3	316.0	128.4	245.6	90.8	70.4	37.6
Fujian 福 建	686.3	44.5	73.3	19.7	73.3	19.7	-	-
Jiangxi 江 西	1,000.0	61.6	9.1	3.4	8.6	3.2	0.5	0.2
Shandong 山 东	1,001.1	109.8	1,025.0	502.2	670.5	333.7	355.1	168.5
Henan 河 南	1,300.5	96.0	1,001.1	477.9	732.2	319.2	348.9	158.7
Hubei 湖 北	1,514.6	101.8	159.2	71.4	150.4	67.7	8.8	3.7
Hunan 湖 南	1,963.5	123.7	76.8	24.6	76.5	24.5	0.3	0.1
Guangdong 广 东	1,970.8	166.3	32.8	12.6	32.8	12.6	-	-
Guangxi 广 西	1,125.3	87.5	70.0	25.3	77.8	25.3	0.2	-
Sichuan 四 川	6,022.9	325.4	1,063.2	430.0	681.3	270.4	381.9	167.6
Guizhou 贵 州	902.5	83.5	197.0	91.2	106.7	96.9	30.3	14.3
Yunnan 云 南	1,374.7	132.4	730.2	304.6	653.7	229.6	182.6	74.9
Xizang 西 藏	16.0	4.0	1,945.0	754.1	673.0	241.1	1,371.4	613.0
Shaanxi 陕 西	606.6	34.1	612.4	334.2	432.3	230.6	180.1	95.7
Gansu 甘 肃	400.0	25.1	1,167.0	671.4	313.0	155.1	854.0	416.3
Qinghai 青 海	80.0	4.1	1,617.0	712.3	165.0	70.7	1,452.0	641.6
Ningxia 宁 夏	91.0	2.0	301.1	184.3	99.4	53.9	201.6	110.4
Xinjiang 新 疆	72.8	7.2	2,250.7	1,143.0	415.0	190.6	1,640.0	946.3

Provided by Planning Bureau, Ministry of Agriculture

Key: (a) Place (g) 1. Goats
 (b) 2. Hogs (h) 2. Sheep
 (c) Total (i) Including reproductive ewes
 (d) Including reproductive sows
 (e) 3. Sheep and Goats
 (f) Including reproductive females

FAMILY SIDELINE OCCUPATIONS

Commune Member Family Sideline Occupations in Each Province, Municipality And Autonomous Region

(Average Per Capita)

Units: Yuan

地 区 (a)	(b) 社员家庭副业生产总收入 (c)			(d) 社员家庭副业生产净收入 (c)		
	1981年	1980年	1981年为 1980年%	1981年	1980年	1981年为 1980年%
National Total 全国总计	115.05	87.44	131.6	84.52	62.55	135.1
Beijing 北京市	79.19	72.55	109.2	49.34	47.00	105.0
Tianjin 天津市	85.04	57.85	147.0	65.02	42.61	152.6
Hebei 河北省	90.97	62.78	144.8	68.52	45.17	151.7
Shanxi 山西省	68.14	47.69	142.9	55.57	39.30	141.4
Nei Monggol 内蒙古	124.18	110.58	112.3	104.12	90.30	115.3
Liaoning 辽宁省	149.01	110.35	135.0	109.57	84.00	130.4
Jilin 吉林省	160.86	122.20	131.6	132.14	95.21	138.8
Heilongjiang 黑龙江省	96.47	73.16	131.9	75.50	52.79	143.0
Shanghai 上海市	115.90	84.19	137.7	71.59	51.07	140.2
Jiangsu 江苏省	114.03	82.81	122.9	70.83	58.29	121.5
Zhejiang 浙江省	151.88	93.16	163.0	104.96	62.78	167.2
Anhui 安徽省	103.36	87.89	117.6	88.02	59.61	147.1
Fujian 福建省	151.75	89.13	170.3	115.03	66.82	172.1
Jiangxi 江西省	126.60	83.72	151.2	94.59	61.81	151.6
Shandong 山东省	94.72	73.80	128.3	64.27	43.90	146.4
Henan 河南省	79.78	67.19	118.7	58.02	45.38	127.4
Hubei 湖北省	96.01	66.30	144.8	80.81	52.51	151.0
Hunan 湖南省	143.24	121.98	117.4	102.48	88.51	115.8
Guangdong 广东省	191.46	151.40	126.5	150.86	120.20	125.5
Guangxi 广西	154.78	117.26	132.0	99.87	81.57	122.0
Sichuan 四川省	133.31	103.62	128.7	89.57	67.58	132.5
Guizhou 贵州省	140.16	101.87	137.6	111.28	75.11	148.2
Yunnan 云南省	101.06	76.10	132.0	76.26	55.56	137.3
Xizang 西藏自治区						
Shaanxi 陕西省	88.22	81.99	107.6	66.47	46.69	142.4
Gansu 甘肃省	68.93	56.08	122.9	53.45	40.32	132.6
Qinghai 青海省	84.86			71.88		
Ningxia 宁夏	99.91	78.27	127.6	85.39	67.61	126.3
Xinjiang 新疆	116.63	85.35	136.6	90.62	48.84	185.2

Note: Figures in table compiled from survey data on income and expenditures of more than 18,000 households nationwide.

Provided by State Statistical Bureau

- Key: (a) Place
 (b) Commune Member Gross Income from Family Sideline Occupations
 (c) 1981 as a percentage of 1980
 (d) Commune Member Net Income from Family Sideline Occupations

COMMUNE AND BRIGADE ENTERPRISES

Basic Data on Commune and Brigade Enterprises

项 目 Particulars	单 位 Units	1981年	1980年	1981年比1980年增减 (a)	
				(b) 绝对数	%
企业单位数 (b)	10,000	133.75	142.46	-8.7	-6.1
企业人员数 (c)	10,000	2,969.56	2,999.67	-30.11	-1.0
企业总收入 (d)	100 million yuan	670.36	596.12	74.29	12.5
其中: 工业企业总收入 (e)	yuan	510.99	455.56	55.43	12.2
企业总收入5,000万元以上的县 (f)	Individual	309	283	26	
企业总收入1,000万元以上的县 (g)	"	946	696	250	
企业总收入100万元以上的县 (h)	"	2,554	1,593	961	
企业利润 (i)	100 million yuan	112.8			-4.7

Provided by People's Commune
Enterprise Control Bureau,
Ministry of Agriculture

- Key: (a) Increase or decrease in 1981 versus 1980
 (b) Number of entrepreneurial units
 (c) Number of personnel
 (d) Gross earnings of enterprises
 (e) Including: Gross earnings from industrial enterprises
 (f) Counties with enterprises making more than 50 million yuan
 (g) Counties with enterprises making more than 10 million yuan
 (h) Counties with enterprises making more than 1 million yuan
 (i) Enterprise profits

Output of Major Products by Commune and Brigade Industrial Enterprises

产 品 名 称 (a)	单 位 (b)	1980年	1981年	1981年比1980年 (c)增 减 %
原 (d) 煤	10,000万吨 tons	10.711.00	12.125.00	13.2
(e) 铁、木、竹制农具	10,000万件 units	40.953.00	34.391.00	-16.0
(f) 水 泥	10,000万吨 tons	669.69	918.00	37.1
(g) 砖	100 亿块 million	1.104.27	1.240.48	12.3
(h) 瓦	100 亿片 units million	201.48	191.55	-4.9
(i) 粗 织 品	10,000万米 pieces meters	10.730.00	20.048.00	86.8
(j) 食用植物油	10,000万吨 tons	84.84	97.67	15.0
(k) 加 工 粮 食	100 亿斤 million	1.003.38	967.98	-3.5
(l) 机 花	10,000万担 jin dan	982.72	1.850.00	92.3

Provided by People's Commune Enterprises Control Bureau,
Ministry of Agriculture

Key: (a) Product Name (f) Cement
(b) Units (g) Bricks
(c) Increase or decrease in 1981 versus 1980 (h) Tiles
(d) Raw coal (i) Knitgoods
(e) Iron, wood, and bamboo farm tools (j) Edible vegetable oil
(k) Processed grain
(l) Ginned cotton

Output of Major Products of Commune and Brigade Agricultural Enterprises

(a) 产 品 名 称	单 (b) 位	1980年	1981年	1981年比1980年 (c)增 减 %
(d) 粮 食	10,000万斤 jin	490.335	688.459	40.41
(e) 茶 叶	担 Dan	2.034.592	2.420.447	18.96
(f) 水 果	担 Dan	40.744.481	39.569.064	-2.89
(g) 药 材	10,000万元 yuan	9.395	19.247	104.86
(h) 肥猪出栏数	头 Head	2.706.275	4.112.079	51.95
(i) 水 产 品	吨 Tons	737.243	1.034.004	40.25
(j) 蚕 茧	担 Dan	632.795	526.918	-16.73

Provided by People's Commune Enterprises Control Bureau,
Ministry of Agriculture

Key: (a) Product Name (f) Fruit
(b) Units (g) Medicinal herbs
(c) Increase or decrease in 1981 versus 1980 (h) Number of fattened hogs removed from inventory
(d) Grain (i) Aquatic products
(e) Tea (j) Silkworm cocoons

Aquatic Products

Aquatic Products Output in Each Province, Municipality, and Autonomous Region

Units: 10,000 tons

(a) 地 区	(b) 1981年 水产品 总产量	(c) 海水产品产量				(f) 淡水产品产量			
		1981年	1980年	1981年比1980年增减		1981年	1980年	1981年比1980年增减	
				(d) 绝对数 (e)	%			(d) 绝对数 (e)	%
National Total 全国总计	440.53	323.18	325.70	-2.52	-0.77	137.35	123.99	13.36	10.78
Beijing 北京	0.42	-	-	-	-	0.42	0.40	0.02	5.00
Tianjin 天津	2.58	1.97	2.47	-0.50	-20.24	0.72	0.74	-0.02	-2.70
Hebei 河北	8.01	7.07	8.66	-1.59	-18.36	0.94	1.11	-0.17	-15.32
Shanxi 山西	0.07	-	-	-	-	0.07	0.08	-0.01	-12.50
Nei Monggol 内蒙古	1.42	-	-	-	-	1.42	1.14	0.28	24.56
Liaoning 辽宁	44.60	43.54	41.22	2.32	5.63	1.06	0.84	0.22	26.19
Jilin 吉林	1.30	-	-	-	-	1.30	0.84	0.46	54.76
Heilongjiang 黑龙江	3.30	-	-	-	-	3.30	2.02	1.28	63.37
Shanghai 上海	19.00	17.10	18.56	-1.46	-7.90	1.90	1.89	0.01	0.53
Jiangsu 江苏	44.12	22.15	22.15	0	持平	21.97	20.56	1.41	6.86
Zhejiang 浙江	84.27	76.04	75.03	1.01	2.41	7.43	6.71	0.72	10.73
Anhui 安徽	7.94	-	-	-	-	7.94	7.28	0.66	9.07
Fujian 福建	13.44	46.56	45.45	1.11	2.44	1.68	1.68	0.20	11.90
Jiangxi 江西	8.50	-	-	-	-	8.50	7.55	1.03	13.64
Shandong 山东	58.99	64.04	67.09	-3.05	5.34	4.95	4.87	0.08	1.64
Henan 河南	3.00	-	-	-	-	3.00	3.91	0.00	3.00
Hubei 湖北	18.08	-	-	-	-	16.08	13.57	1.51	11.13
Hunan 湖南	17.05	-	-	-	-	17.05	15.91	1.94	12.19
Guangdong 广东	79.58	65.70	47.10	-1.46	-3.10	24.68	22.08	2.62	12.78
Guangxi 广西	11.75	8.21	7.83	0.28	3.53	3.54	3.21	0.33	10.28
Sichuan 四川	5.00	-	-	-	-	5.00	5.24	0.36	6.87
Guizhou 贵州	0.57	-	-	-	-	0.57	0.54	0.03	5.56
Yunnan 云南	1.43	-	-	-	-	1.63	1.52	0.11	7.24
Xizang 西藏	0.01	-	-	-	-	0.01	-	-	-
Shaanxi 陕西	0.25	-	-	-	-	0.25	0.25	0	持平
Gansu 甘肃	0.02	-	-	-	-	0.02	0.02	0	持平
Qinghai 青海	0.37	-	-	-	-	0.37	0.32	0.05	15.63
Ningxia 宁夏	0.05	-	-	-	-	0.05	0.03	0.02	66.67
Xinjiang 新疆	0.62	-	-	-	-	0.62	0.69	-0.07	-10.14

Provided by Planning and Financial Bureau, State Aquatic Products Bureau

- Key: (a) Place
 (b) Gross Output of Aquatic Products in 1981
 (c) Output of Marine Products
 (d) Increase or decrease in 1981 versus 1980
 (e) Absolute Figures
 (f) Output of Freshwater Products

State Farm and Land Reclamation

State Farm and Land Reclamation Production

(a) 项 目	(b) 单位	1981年	1980年	1981年比1980年增减(c)	
				d) 绝对数	%
1. Basic Situation					
Total No. of state farm & land reclamation enterprises	Units	2,580	2,485	95	3.9
Including: Farms	Units	2,094	2,093	1	...
Industrial Enterprises	Units	238	225	13	5.3
Total Population	10,000	1,145.01	1,136.93	8.08	0.7
Number of staff/workers	10,000	492.83	492.14	0.69	0.1
Total wages	10,000 yuan	318.122	314.435	3.687	1.2
Gross output value of agriculture and industry (at constant 1970 prices)	"	861.846	860.289	1.557	0.2
Industrial output value	"	417.110	382.045	35.065	9.2
Percentage of gross output value of agriculture and industry	%	48.4	44.4	-	4.0
Agricultural output value	"	444.736	478.244	-33.508	-7.0
Percentage of gross output value of agriculture and industry	%	51.6	55.6	-	-4.0
Investment in fixed assets	"	165.211	163.925	1.286	0.8
Including: State investment	"	35.979	61.908	-25.929	-41.9
Percent of investment in fixed assets	%	21.8	37.8	-	-16.0
Forestland area	10,000 mu	3.125	3.177	-52	-1.6
Cover Rate	%	7.3	7.4	-	-0.1
Current year afforestation	10,000 mu	140	109	31	28.4
2. Amounts of major machines, electricity and chemical fertilizer used					
Large and medium tractors	Units	55.372	55.582	-210	-0.4
	10,000 hp	294.92	292.19	2.73	0.9
Small hand tractors	Units	27.818	27.371	447	1.6
	10,000 hp	32.64	30.99	1.65	5.3
Total motor vehicles	Units	32.927	31.908	1.019	3.2
Power machines used in drainage and irrigation	Units	68.306	71.456	-3.150	-4.4
	10,000 hp	150.30	152.96	-2.66	-1.7
Harvesting combines	Units	16.873	16.208	665	4.1
	10,000 hp	105.79	94.90	10.89	11.5
Total farm machine power	10,000 hp	868.03	877.82	-9.79	-1.1
Electric power used in agriculture	100 million kw	21.34	18.37	2.97	16.2
Amount of farm chemical fertilizer	10,000 tons	147.69	146.11	1.58	1.1
Chemical fertilization per mu	jin	43	42	1	2.4
3. Major farm crop yields per unit of area					
Total area sown to farm crops	10,000 mu	6.903	7.024	-121	-1.7
Grain and bean crop area	"	5.219	5.362	-143	-2.7
Gross output	100 million jin	122	153	-31	-20.0
Yields per mu	jin	233	286	-53	-18.5
Cotton area	10,000 mu	281	245	36	14.7

hp = horsepower

- Key: (a) Particulars
 (b) Units
 (c) Increase or decrease in 1981 versus 1980
 (d) Absolute Figures

(续)

(a) 项	II	单位 (b)	1981年	1980年	1981年比1980年增减 (c)	
					d) 绝对数	%
Gross output		10,000 dan	222	177	45	25.4
Yields per mu		jin	79	72	7	9.7
Oil-bearing crop area		10,000 mu	373	337	36	10.7
Gross output		10,000 dan	315	246	69	28.0
Yields per mu		jin	84	73	11	15.1
Sugar crop area		10,000 mu	106	100	6	6.0
Gross output		10,000 dan	3,608	2,922	686	23.5
Yields per mu		jin	3,411	2,914	497	17.1
4. Output of major farm products						
Gross output of dry rubber		10,000 tons	11.52	10.71	0.81	7.6
Sisal hemp (converted to fiber)		Tons	13,153	11,856	1,297	10.9
Gross output of fruit		10,000 dan	591	532	59	11.1
Gross tea output		10,000 dan	38	32	6	18.8
Gross ginseng output		10,000 jin	141	135	6	4.4
5. Numbers of livestock, output of major livestock products, & number of hogs at end of year		10,000 head	381	399	-18	-4.5
Numbers of large livestock at end of year		10,000 head	204	202	2	1.0
Including: milk cows		10,000 head	20.6	20.2	0.4	2.0
Numbers of sheep & goats at end of year		10,000 head	749	704	45	6.4
Gross output of meat		10,000 jin	52,306	47,415	4,891	10.3
Gross output of milk		"	70,281	64,967	5,314	8.2
Gross output of wool and goat hair		"	2,965	2,899	66	2.3
Gross output of poultry eggs		"	5,362	4,833	529	10.9
Gross output of pilose antlers		jin	63,369	63,907	-538	-0.8
Gross output of honey		10,000 jin	382	468	-86	-18.4
Gross output of aquatic products		tons	31,339	30,330	1,009	3.3
6. Sales to state of grain and beans		100 million jin	42	61	-19	-31.1
Commodity rate		%	34.6	39.9	-	-5.3
7. Output of major industrial products						
Electric power		10,000 kwh	53,617	49,794	3,823	7.7
Raw coal		10,000 tons	416.59	414.31	2.28	0.6
Synthetic ammonia		10,000 tons	7.92	4.84	3.08	63.6
Chemical fertilizer		"	6.21	5.41	0.80	14.8
Cement		"	52.31	49.13	3.18	6.5
Bricks		100 million	40.30	40.76	-0.46	-1.1
Tiles		"	2.21	2.73	-0.52	-19.0
Cotton yarn		10,000 bales	17.07	14.98	2.09	14.0
Cotton cloth		10,000 meters	12,502	11,571	931	8.0
Machine-made paper		10,000 tons	7.87	7.66	0.21	2.7
Refined sugar		"	18.31	15.34	2.97	19.4
White spirits [from gaoliang or corn]		"	6.68	5.40	1.28	23.7
Dairy products		"	2.16	2.14	0.02	0.9
Edible vegetable oil		"	5.78	4.36	1.42	32.6
8. Gross export earnings		10,000 yuan	50,646	45,668	4,978	10.9

Provided by Planning Bureau, Ministry of Agriculture

[Key the same as page 63]

Farm Machinery

Amounts of Major Farm Machinery Owned at Year's End in Each Province, Municipality, and Autonomous Region (1)

地 区 (a)	农业机械总动力 (b) (万马力)	(c) 大中型农用拖拉机		(d) 小型及手扶拖拉机	
		台 (e)	万马力(f)	(g)万台	(f)万马力
National Total 全国总计	21,318.5	792,032	3,432.2	203.7	2,394.3
Beijing 北 京	332.9	8,294	46.6	2.4	23.8
Tianjin 天 津	299.6	13,75	63.5	0.8	8.4
Hebei 河 北	1,750.7	45,012	217.3	11.8	137.4
Shanxi 山 西	780.6	34,402	143.0	3.4	40.2
Nei Monggol 内 蒙 古	558.9	33,212	171.4	1.5	19.3
Liaoning 辽 宁	809.4	44,151	201.1	4.4	52.9
Jilin 吉 林	538.2	30,999	152.0	2.7	32.4
Heilongjiang 黑 龙 江	1,434.6	78,268	430.6	4.2	52.3
Shanghai 上 海	298.6	17,456	32.5	3.3	35.4
Jiangsu 江 苏	1,638.4	17,214	80.0	28.5	341.6
Zhejiang 浙 江	786.4	10,204	29.3	11.0	131.3
Anhui 安 徽	821.0	17,982	88.4	12.3	146.8
Fujian 福 建	269.1	9,405	31.6	7.2	86.8
Jiangxi 江 西	467.5	20,641	57.0	6.0	70.4
Shandong 山 东	2,077.5	125,084	415.9	12.8	150.5
Henan 河 南	1,717.2	64,590	312.4	15.0	177.6
Hubei 湖 北	1,084.9	36,968	111.8	11.4	138.3
Hunan 湖 南	896.6	19,064	71.0	7.1	72.4
Guangdong 广 东	1,001.1	20,498	86.3	14.0	152.8
Guangxi 广 西	559.3	22,090	88.0	10.8	120.0
Sichuan 四 川	972.8	23,460	88.8	10.6	129.1
Guizhou 贵 州	186.0	8,338	26.7	0.8	9.3
Yunnan 云 南	446.1	18,756	83.6	3.4	40.2
Xizang 西 藏	36.8	2,071	12.7	0.6	6.6
Shaanxi 陕 西	871.8	20,982	107.3	7.5	89.2
Gansu 甘 肃	494.4	17,405	85.4	5.7	67.7
Qinghai 青 海	83.1	6,374	31.2	1.4	17.2
Ningxia 宁 夏	124.8	5,782	29.2	1.8	21.3
Xinjiang 新 疆	360.8	30,985	149.6	1.5	16.9

- Key: (a) Place
 (b) Total power of farm machinery (10,000 horsepower)
 (c) Large and medium farm tractors
 (d) Small tractors and hand tractors
 (e) Units
 (f) 10,000 horsepower
 (g) 10,000 units

Amounts of Major Farm Machinery Owned at Year's End in Each Province, Municipality, and Autonomous Region (2)

地 区 (a)	次 (b) 具 (万部)	(c) 具 中			小型及手 扶拖拉机 (万部)	机 耕 船 (h)	
		机 引 犁 (万部)	机 引 耙 (万部)	机 引 播种机 (万部)		艘 (i)	马力 (j)
National Total 全国总计	139.6	52.3	36.6	18.4	221.5	113.430	834.724
Beijing 北 京	1.6	0.8	0.3	0.2	3.1		3.282
Tianjin 天 津	1.9	0.7	0.3	0.3	1.1	295	771
Hebei 河 北	8.4	3.4	0.8	1.3	11.5	45	
Shanxi 山 西	1.7	2.7	0.8	0.6	2.2		
Nei Monggol 内 蒙 古	4.4	1.5	1.4	1.1	8.4		
Liaoning 辽 宁	10.9	2.8	2.3	2.0	5.2	922	3,400
Jilin 吉 林	6.4	1.6	1.9	1.2	2.0		
Heilongjiang 黑 龙 江	27.2	3.9	8.5	6.4	1.8		
Shanghai 上 海	1.2	0.4			8.9	28	334
Jiangsu 江 苏	3.4	1.4	0.7	0.3	59.3	12	144
Zhejiang 浙 江	1.7	0.8	0.5	---	16.1	5,027	55,495
Anhui 安 徽	2.2	1.5	0.6	0.1	13.6	789	8,543
Fujian 福 建	1.3	0.5	0.6	---	3.9	4,075	48,829
Jiangxi 江 西	6.1	1.4	2.7	---	8.0	2,906	29,775
Shandong 山 东	18.9	10.1	2.7	2.6	14.3	54	648
Henan 河 南	7.7	3.9	2.3	1.3	5.4	14	168
Hubei 湖 北	4.7	2.4	1.8	0.3	6.9	34,124	297,400
Hunan 湖 南	2.6	1.1	1.4	---	7.6	53,505	294,816
Guangdong 广 东	3.1	1.4	1.5	---	16.2	1,619	16,058
Guangxi 广 西	3.3	1.5	1.7		12.3	2,775	30,848
Sichuan 四 川	3.8	1.9	0.4		15.8	7,075	38,365
Guizhou 贵 州	0.8	0.5	0.3	---	0.2	21	181
Yunnan 云 南	7.1	0.8	0.4	---	3.1	42	500
Xizang 西 藏	0.3	0.1	0.1	0.1	0.1		
Shaanxi 陕 西	3.2	1.8	0.5	0.5	8.7	38	420
Gansu 甘 肃	2.6	1.5	0.5	0.4	4.1		
Qinghai 青 海	0.9	0.4	0.3	0.2	0.8		
Ningxia 宁 夏	0.9	0.4	0.3	0.2	1.0		
Xinjiang 新 疆	4.8	1.5	1.2	1.3	0.5	53	589

- Key (a) Place
 (b) Large and Medium Size Tractor-towed Implements (10,000)
 (c) Including
 (d) Plows (10,000) (i) Units
 (e) Harrows (10,000) (j) H.P.
 (f) Seed Drills (10,000)
 (g) Small and Hand Tractor-towed Implements (10,000)
 (h) Mechanized Plowing Boats

Number of Major Farm Machines Owned at Year's-end in Each Province, Municipality, and Autonomous Region (3)

地 区 (a)	机 械 总 数 (b) (部)	(c) 农 用 带 动 力 机 械		(d) 其 中, 柴 油 机	
		(e) 万 台	(f) 万 马 力	(e) 万 台	(f) 万 马 力
National Total 全国总计	84,195	867.2	7,498.3	285.6	3,637.2
Beijing 北 京	2,343	7.3	104.5	0.1	0.9
Tianjin 天 津	1,158	8.8	135.2	2.2	28.1
Hebei 河 北	1,014	83.1	1,057.1	45.1	545.7
Shanxi 山 西	84	15.8	242.6	3.6	58.0
Nei Monggol 内 蒙 古		8.8	118.1	2.6	39.6
Liaoning 辽 宁	4,442	11.8	187.8	3.8	62.1
Jilin 吉 林	7,382	8.8	112.4	2.8	34.5
Heilongjiang 黑 龙 江	1,458	8.8	101.8	2.8	30.8
Shanghai 上 海	18,181	4.2	35.8		0.5
Jiangsu 江 苏	10,888	34.7	582.6	18.8	260.6
Zhejiang 浙 江	3,287	18.2	183.6	7.3	94.7
Anhui 安 徽	1,832	33.1	448.6	15.3	228.8
Fujian 福 建	84	8.8	78.2	4.2	48.8
Jiangxi 江 西	388	12.8	215.1	8.8	117.1
Shandong 山 东	1,288	75.3	884.6	62.6	718.8
Henan 河 南	825	81.8	793.8	41.3	484.4
Hubei 湖 北	8,278	11.7	282.8	7.1	108.6
Hunan 湖 南	1,787	24.7	383.6	27.8	337.1
Guangdong 广 东	488	18.6	232.8	4.3	88.8
Guangxi 广 西	378	6.8	108.8	3.3	58.1
Sichuan 四 川	347	27.7	384.8	22.8	238.8
Guizhou 贵 州	88	7.8	84.8	2.8	38.3
Yunnan 云 南	822	4.2	93.6	1.8	18.1
Xizang 西 藏		8.7	8.2	8.6	8.8
Shaanxi 陕 西	183	28.2	283.8	4.2	58.8
Gansu 甘 肃		8.6	188.1	2.8	43.2
Qinghai 青 海		8.6	12.7	8.1	2.8
Ningxia 宁 夏	18	1.4	23.8	8.4	8.6
Xinjiang 新 疆	188	3.2	81.1	2.8	38.2

Key: (a) Place
 (b) Mechanized transplanters (Units)
 (c) Powered Farm Irrigation and Drainage Machines
 (d) Including: Diesel Engines
 (e) 10,000 units
 (f) 10,000 h.p.

Number of Major Farm Machines Owned at Year's-end in Each Province, Municipality, and Autonomous Region (4)

地 区 (a)	(b) 其 中 电 机 具			(c) 次 用 水 泵 (万台)	(d) 喷 雾 机 械 (台)
	(e) 10,000 单位	(f) 10,000 千瓦	(g) 10,000 马力		
National Total 全国总计	269.1	2,790.3	3,800.6	475.4	295,717
Beijing 北 京	7.3	74.2	103.6	6.4	581
Tianjin 天 津	6.4	72.8	107.1	5.9	1,300
Hebei 河 北	47.6	315.7	470.0	63.4	8,426
Shanxi 山 西	11.5	134.4	185.5	15.2	5,900
Nei Monggol 内 蒙 古	4.4	49.9	67.9	9.3	3,545
Liaoning 辽 宁	7.5	97.5	132.5	7.3	6,047
Jilin 吉 林	4.8	64.6	87.9	6.1	5,087
Heilongjiang 黑 龙 江	3.1	36.2	49.3	6.9	5,041
Shanghai 上 海	4.5	35.9	35.3	4.3	2,468
Jiangsu 江 苏	17.7	243.9	331.7	37.0	26,151
Zhejiang 浙 江	10.9	80.0	108.7	20.8	24,124
Anhui 安 徽	17.6	160.9	218.9	30.6	5,177
Fujian 福 建	1.6	15.3	21.7	3.2	5,542
Hiangxi 江 西	5.6	60.4	97.3	6.6	6,934
Shandong 山 东	21.0	196.0	266.0	38.1	47,000
Henan 河 南	60.6	241.6	329.6	57.3	33,186
Hubei 湖 北	4.6	135.6	184.3	24.1	12,631
Hunan 湖 南	5.9	111.5	151.7	31.2	12,536
Guangdong 广 东	13.8	112.5	153.9	13.6	5,254
Guangxi 广 西	2.2	36.6	49.7	5.9	9,952
Sichuan 四 川	3.5	105.2	143.1	27.7	48,902
Guizhou 贵 州	2.4	25.3	34.9	2.3	907
Yunnan 云 南	2.4	54.3	73.9	2.2	8,331
Xizang 西 藏	0.2	1.1	1.4	0.1	304
Shaanxi 陕 西	16.0	150.0	203.9	18.5	6,926
Gansu 甘 肃	3.0	104.0	141.5	5.9	2,154
Qinghai 青 海	0.4	6.2	9.9	0.3	540
Ningxia 宁 夏	0.8	13.4	18.0	0.9	179
Xinjiang 新 疆	1.2	16.3	23.6	2.5	262

Key: (a) Place
 (b) Including: Electrical Machines
 (c) Farm Water Pumps (10,000 units)
 (d) Spray Irrigation Machines (Units)
 (e) 10,000 units
 (f) 10,000 kilowatts
 (g) 10,000 horsepower

Number of Major Farm Machines Owned at Year's-end in Each Province, Municipality, and Autonomous Region (5)

(a)	(b) 联合收割机	(c) 机动收割机		(d) 机动脱粒机	(e) 种子精选机
		(f) 台	(g) 马力		
National Total 全国总计		31,264	1,835,114	73,377	251.7
Beijing 北京		652	28,042	3,851	2.8
Tianjin 天津		98	5,850	1,336	1.8
Hebei 河北		384	20,803	1,068	21.5
Shanxi 山西		110	5,905	4,263	4.5
Nei Monggol 内蒙古		2,187	124,113	1,238	2.1
Liaoning 辽宁		47	5,000	111	5.5
Jilin 吉林		159	9,161	73	6.3
Heilongjiang 黑龙江		17,924	1,222,774	980	0.5
Shanghai 上海		423	2,222	3,797	8.8
Jiangsu 江苏		680	26,160	3,775	44.8
Zhejiang 浙江		264	4,284	3,789	31.8
Anhui 安徽		473	15,886	1,045	9.2
Fujian 福建		96	1,194	219	2.6
Jiangxi 江西		151	4,050	1,386	3.3
Shandong 山东		172	10,009	24,011	22.0
Henan 河南		938	42,567	6,310	12.2
Hubei 湖北		858	30,800	6,714	17.7
Hunan 湖南		294	8,924	44	3.2
Guangdong 广东		210	4,547	876	13.3
Guangxi 广西		713	602	308	7.3
Sichuan 四川		51	2,367	357	13.2
Guizhou 贵州				298	0.3
Yunnan 云南		154	3,002	797	5.3
Xizang 西藏		67	4,024	462	0.8
Shaanxi 陕西		163	7,972	2,188	7.6
Gansu 甘肃		210	11,418	1,457	1.5
Qinghai 青海		432	24,567	546	0.8
Ningxia 宁夏		260	7,014	1,136	1.2
Xinjiang 新疆		3,472	281,080	453	0.6

Key: (a) Place
 (b) Combines
 (c) Motorized harvesters (units)
 (d) Motorized threshers (10,000 units)
 (e) Seed Selectors (units)
 (f) units
 (g) horsepower

Number of Major Farm Machines Owned at Year's-end in Each Province, Municipality, and Autonomous Region (6)

地 区 (a)		谷物烘干机 (b) (台)	碾米机、磨面机 (c) (万部)	轧花机 (d) (万部)	榨油机 (e) (万部)
National Total	全国总计	14,841	319.4	26.4	23.6
Beijing	北 京	2,007	2.9		0.1
Tianjin	天 津	42	1.7	0.1	0.1
Hebei	河 北	135	30.5	2.8	2.1
Shanxi	山 西	121	11.0	0.7	0.7
Nei Monggol	内 蒙 古		8.6		0.5
Liaoning	辽 宁	200	10.3	0.1	0.5
Jilin	吉 林	61	9.8		0.3
Heilongjiang	黑 龙 江	199	8.4		0.3
Shanghai	上 海	187	10.7	0.1	
Jiangsu	江 苏	50	16.1	1.1	0.8
Zhejiang	浙 江	1,032	10.6	0.5	0.1
Anhui	安 徽	76	14.3	2.5	1.6
Fujian	福 建	115	5.4		0.4
Jiangxi	江 西	393	8.6	0.5	0.4
Shandong	山 东	30	14.6	3.6	3.8
Henan	河 南	49	31.0	4.8	4.7
Hubei	湖 北	419	22.5	3.0	1.8
Hunan	湖 南	547	17.1	2.6	1.1
Guangdong	广 东	3,069	8.4		0.5
Guangxi	广 西		11.4		0.3
Sichuan	四 川	4,175	34.4	1.8	0.9
Guizhou	贵 州	450	6.1	0.1	0.3
Yunnan	云 南	411	10.4	...	0.2
Xizang	西 藏	
Shaanxi	陕 西	25	13.2	1.8	0.7
Gansu	甘 肃	52	7.5	0.1	0.6
Qinghai	青 海	927	0.7		0.2
Ningxia	宁 夏	25	1.9		0.1
Xinjiang	新 疆	16	1.3	0.2	0.3

Key: (a) Place
 (b) Grain Dryers (units)
 (c) Rice millets, flour grinders (10,000 units)
 (d) Cotton gins (10,000 units)
 (e) Oil pressing machines (10,000 units)

Number of Major Farm Machines Owned at Year's-end in Each Province, Municipality, and Autonomous Region (7)

地 区 (a)	(b) 农用载重汽车		(c) 机动运输船		(d) 人力胶轮车	(e) 胶轮手推(拉)车
	(f) 辆	(g) 万马力	(f) 艘	(g) 万马力	(万辆)	(万辆)
National Total 全国总计	175.126	1,675.9	129.656	176.8	233.7	4,126.0
Beijing 北京	4.858	41.2	17		4.7	53.7
Tianjin 天津	3.599	34.1	17	0.2	4.2	24.0
Hebei 河北	7.483	65.2		---	46.2	487.8
Shanxi 山西	9.407	83.1			8.7	123.0
Nei Monggol 内蒙古	4.983	47.5			17.1	96.6
Liaoning 辽宁	9.611	90.3	343	1.5	28.8	66.6
Jilin 吉林	4.405	43.3	12	0.1	20.9	22.0
Heilongjiang 黑龙江	11.259	109.9	38	0.8	27.1	51.6
Shanghai 上海	5.458	40.4	14,614	11.1		7.8
Jiangsu 江苏	3.947	30.9	64,837	70.6	1.9	235.4
Zhejiang 浙江	3.264	31.2	30,339	31.2		133.7
Anhui 安徽	5.484	57.3	4,587	7.8	1.0	274.8
Fujian 福建	3.749	32.0	2,804	8.0	0.8	61.3
Jiangxi 江西	6.485	51.8	2,842	3.4	0.7	50.2
Shandong 山东	10.736	95.2	1,059	2.9	21.9	781.3
Henan 河南	11.240	95.8	34	0.1	18.8	859.6
Hubei 湖北	6.108	51.5	2,445	4.8	1.5	82.0
Hunan 湖南	9.933	90.6	5,843	8.9	0.2	31.0
Guangdong 广东	16.796	146.1	9,006	20.2	9.9	62.8
Guangxi 广西	3.639	32.2	1,560	3.4	0.5	16.0
Sichuan 四川	7.252	62.3	185	0.9	0.6	11.4
Guizhou 贵州	2.432	22.0	62	0.4	1.8	6.9
Yunnan 云南	4.048	36.4	177	0.4	3.6	67.5
Xizang 西藏	478	4.4			1.2	3.3
Shaanxi 陕西	4.648	41.7	27	0.1	4.4	228.6
Gansu 甘肃	4.384	40.5			4.4	174.7
Qinghai 青海	2.018	19.1			1.7	23.0
Ningxia 宁夏	1.206	11.2			1.8	29.8
Xinjiang 新疆	6.156	58.0			8.5	80.4

Key: (a) Place
 (b) Farm Trucks
 (c) Motorized Boats
 (d) Rubber-tired animal-drawn large wagons (10,000 units)
 (e) Rubber-tired pushcarts or pullcarts (10,000 units)
 (f) Units
 (g) 10,000 horsepower

Number of Major Farm Machines Owned at Year's-end in Each Province, Municipality, and Autonomous Region (8)

(a)		机动喷雾(器)器	饲料粉碎机	牧草收割机	机动剪毛机	机动挤奶器
地 区		(b) (万部)	(c) (万部)	(d) (万部)	(e) (部)	(f) (部)
National Total	全国总计	30.3	134.2	14.473	1,879	1,631
Beijing	北 京	1.1	1.4			37
Tianjin	天 津	0.2	0.9	28		54
Hebei	河 北	2.0	9.4	44	26	20
Shanxi	山 西	0.4	2.9	112	4	6
Nei Monggol	内 蒙 古	0.3	3.0	9,096	413	219
Liaoning	辽 宁	0.8	4.7	206	8	74
Jilin	吉 林	0.1	3.9	604	17	47
Heilongjiang	黑 龙 江	0.3	4.8	966	25	119
Shanghai	上 海	2.0	0.7			103
Jiangsu	江 苏	5.1	11.0		14	13
Zhejiang	浙 江	4.1	3.4			
Anhui	安 徽	0.3	1.9		2	2
Fujian	福 建	0.8	1.8			
Jiangxi	江 西	0.3	0.7			6
Shandong	山 东	2.0	20.6			16
Henan	河 南	0.7	9.7	80	1	
Hubei	湖 北	0.9	7.9		2	3
Hunan	湖 南	2.4	3.2			
Guangdong	广 东	0.7	5.8			217
Guangxi	广 西	0.8	6.6			12
Sichuan	四 川	2.7	13.3	232	62	91
Guizhou	贵 州	0.2	0.5	23	4	8
Yunnan	云 南	0.1	3.2			
Xizang	西 藏	0.1	---	142	234	351
Shaanxi	陕 西	0.4	6.1	31	9	110
Gansu	甘 肃	0.3	4.5	35	201	63
Qinghai	青 海	0.1	0.6	71	343	
Ningxia	宁 夏	0.1	0.8	32	5	1
Xinjiang	新 疆	0.4	0.6	2,781	509	60

Key: (a) Place
 (b) Mechanized Sprayers and Dusters (10,000 units)
 (c) Fodder Grinders (10,000 units)
 (d) Pasture Grass Mowers (10,000 units)
 (e) Power Clippers (Units)
 (f) Power Milking Machines (Units)

Number of Major Farm Machines Owned at Year's-end in Each Province, Municipality, and Autonomous Region (9)

(a) 地 区	(b) 渔业机械总合计			(c) 其中 400 马力以上		
	(d) 艘	(e) 万吨	(f) 万马力	(d) 艘	(e) 万吨	(f) 万马力
National Total 全国总计	73,586	161.1	398.7	792	21.3	47.2
Beijing 北京	45		0.1			
Tianjin 天津	458	2.9	0.2	10	0.5	1.0
Hebei 河北	1,784	5.0	13.1	25	0.8	1.4
Shanxi 山西	20	...	0.1			
Nei Monggol 内蒙古	20	...	0.1			
Liaoning 辽宁	5,729	13.4	30.9	130	5.3	9.8
Jilin 吉林	80	0.1	0.5	3		0.1
Heilongjiang 黑龙江	300	0.3	0.9			
Shanghai 上海	1,444	6.0	16.1	80	2.0	5.2
Jiangsu 江苏	5,690	15.7	36.8	82	2.1	5.3
Zhejiang 浙江	14,680	42.5	89.4	131	3.3	7.7
Anhui 安徽	1,151	1.4	1.7			
Fujian 福建	10,064	15.8	43.7			
Jiangxi 江西	450	0.2	0.4			
Shandong 山东	10,912	19.4	45.8	112	2.9	6.3
Henan 河南	26		0.2			
Hubei 湖北	540	0.4	0.6			
Hunan 湖南	650	0.6	1.1			
Guangdong 广东	17,422	22.1	104.0	143	3.1	8.1
Guangxi 广西	1,109	5.3	12.0	40	1.3	2.3
Sichuan 四川	50	...	0.1			
Guizhou 贵州		...				
Yunnan 云南	253	0.1	0.3			
Xizang 西藏						
Shaanxi 陕西	54	...	0.1			
Gansu 甘肃	6			
Qinghai 青海	9	...	0.1			
Ningxia 宁夏						
Xinjiang 新疆	50	...	0.2			

Provided by State Statistical Bureau; Planning Bureau, Ministry of Agriculture, and Farm Machine Administration, Ministry of Agriculture

- Key: (a) Place
 (b) Fishing Industry Powerboats
 (c) Including Those of More Than 400 Horsepower
 (d) Units
 (e) 10,000 tons
 (f) 10,000 horsepower

Water Conservancy

Numbers of Reservoirs and Dammed Ponds Nationwide

<u>Particulars</u>	<u>Units</u>	<u>1981</u>	<u>1980</u>
Reservoirs			
Number	Units	86,881	86,822
Capacity	100 million m ³	4,169.21	4,130.31
Including:			
Large reservoirs			
Number	Units	328	326
Capacity	100 million m ³	2,989.02	2,975.36
Dammed Ponds			
	10,000		
Number		631.73	636.69
Capacity	100 million m ³	265.92	273.36

Provided by Planning Bureau, Ministry of Water Conservancy

Number of Permanent Drainage and Irrigation Stations and Waterwheel Pumping Stations in Each Province, Municipality, and Autonomous Region

地区 (a)		(b) 固定排灌站				(c) 水轮泵站			
		(d) 处数		(e) 万马力		(d) 处数		(f) 台	
		1980年	1981年	1980年	1981年	1980年	1981年	1980年	1981年
National Total	全国总计	524.426	472.299	2.444.54	2.453.61	36.290	32.966	53.385	50.017
Beijing	北京	6.383	6.385	19.81	21.27	8	8	18	17
Tianjin	天津	1.496	1.707	42.23	49.43	-	-	-	-
Hebei	河北	1.007	1.003	41.15	44.35	454	386	635	512
Shanxi	山西	20.841	14.099	93.28	81.58	123	108	223	198
Nei Monggol	内蒙古	2.681	2.371	20.33	19.25	1	3	26	28
Liaoning	辽宁	6.515	6.901	78.02	79.52	14	12	43	43
Jilin	吉林	5.308	5.484	35.91	36.53	36	36	120	116
Heilongjiang	黑龙江	4.912	5.024	35.97	36.41	58	58	109	110
Shanghai	上海	6.513	6.852	18.89	20.19	-	-	-	-
Jiangsu	江苏	53.761	52.363	298.88	307.21	8	4	44	40
Zhejiang	浙江	46.366	51.037	90.59	94.71	772	777	969	964
Anhui	安徽	10.358	10.350	161.52	165.73	601	566	703	662
Fujian	福建	19.086	19.925	38.45	40.00	1,922	2,496	3,678	3,760
Jiangxi	江西	17.038	17.168	81.61	83.94	1,983	1,985	2,459	2,458
Shandong	山东	24.773	25.238	144.32	150.32	96	97	189	190
Henan	河南	21.432	21.367	104.43	106.08	152	141	313	290
Hubei	湖北	14.672	15.149	198.39	209.03	292	135	413	199
Hunan	湖南	115.843	63.612	230.08	179.35	5,233	5,219	8,134	3,521
Guangdong	广东	30.406	31.089	145.35	147.99	6,796	5,526	9,270	7,652
Guangxi	广西	29.242	28.275	78.49	79.03	8,483	7,674	12,828	11,639
Sichuan	四川	25.205	26.771	141.79	119.05	1,011	973	1,249	1,173
Guizhou	贵州	11.383	11.117	33.28	32.54	4,623	4,468	8,560	8,364
Yunnan	云南	9.324	9.437	68.66	70.02	794	721	1,189	1,121
Xizang	西藏	-	-	-	-	-	-	-	-
Shaanxi	陕西	22.423	22.384	89.38	100.09	1,431	1,180	1,568	1,298
Gansu	甘肃	14.220	14.154	117.69	123.95	376	384	573	572
Qinghai	青海	759	778	9.57	9.94	25	20	49	43
Ningxia	宁夏	1.498	1.414	12.91	12.74	4	4	13	13
Xinjiang	新疆	981	811	3.60	3.41	4	15	10	31

Provided by Planning Bureau, Ministry of Water Conservancy

- Key: (a) Place
 (b) Permanent Drainage and Irrigation Stations
 (c) Waterwheel Pumping Stations
 (d) Number
 (e) 10,000 horsepower
 (f) Units

**Area of Elimination of Waterlogging and Control of Alkalinity
in Each Province, Municipality, and Autonomous Region**

(a) 地 区	(b) 除 涝 面 积		(c) 盐碱耕地初步治理面积	
	1980年	1981年	1980年	1981年
National Total 全国总计	26,770.86	26,844	6,353.58	6,394
Beijing 北 京	236.53	232	62.30	63
Tianjin 天 津	654.36	648	323.71	303
Hebei 河 北	2,352.29	2,300	904.10	1,000
Shanxi 山 西	122.11	120	220.94	227
Nei Monggol 内 蒙 古	231.01	225	330.59	303
Liaoning 辽 宁	1,412.78	1,416	397.06	401
Jilin 吉 林	1,446.84	1,446	197.27	199
Heilongjiang 黑 龙 江	2,704.94	2,754	288.64	290
Shanghai 上 海	87.40	88	40.12	40
Jiangsu 江 苏	4,011.63	3,986	866.37	845
Zhejiang 浙 江	571.72	575	-	-
Anhui 安 徽	2,696.76	2,718	139.54	138
Fujian 福 建	151.63	141	21.92	23
Jiangxi 江 西	474.54	478	-	-
Shandong 山 东	3,349.93	3,373	821.41	780
Henan 河 南	2,247.15	2,275	863.03	863
Hubei 湖 北	1,777.26	1,803	-	-
Hunan 湖 南	585.78	599	-	-
Guangdong 广 东	753.44	755	-	-
Guangxi 广 西	271.82	271	-	-
Sichuan 四 川	101.77	103	0.65	1
Guizhou 贵 州	47.52	48	-	-
Yunnan 云 南	230.81	239	1.72	1
Xizang 西 藏	-	-	-	-
Shaanxi 陕 西	183.65	184	45.09	71
Gansu 甘 肃	14.93	14	105.54	104
Qinghai 青 海	-	-	12.59	13
Ningxia 宁 夏	-	-	62.75	66
Xinjiang 新 疆	48.00	53	648.22	643

Provided by Planning Bureau, Ministry of Water Conservancy

Key: (a) Elimination of Waterlogging
(b) Area of Preliminary Control of Alkaline and Saline Cultivated Land

Chemical Fertilizer and Agricultural Pesticides

Chemical Fertilizer and Agricultural Pesticide Output for Each Province, Municipality, and Autonomous Region

		Units: 10,000 tons			
(a)	(b)	(c) 分 品 种			(g)
		(d)	(e)	(f)	
National Total	全国总计	1,238.98	985.66	250.76	2.56
Beijing	北 京	12.19	10.15	1.97	0.07
Tianjin	天 津	4.78	4.13	0.65	7.32
Hebei	河 北	97.71	82.54	15.16	0.01
Shanxi	山 西	37.07	31.67	5.39	0.01
Nei Monggol	内 蒙 古	8.22	6.04	0.18	0.10
Liaoning	辽 宁	69.25	57.15	12.10	6.00
Jilin	吉 林	28.89	27.40	1.49	0.11
Heilongjiang	黑 龙 江	31.60	28.13	3.47	0.54
Shanghai	上 海	16.21	13.75	2.46	2.02
Jiangsu	江 苏	111.18	88.02	24.66	8.51
Zhejiang	浙 江	47.98	39.57	8.33	0.08
Anhui	安 徽	54.63	47.22	7.41	1.09
Fujian	福 建	24.88	19.95	4.92	0.01
Jiangxi	江 西	23.71	15.02	8.72	1.36
Shandong	山 东	105.44	87.43	18.01	2.89
Henan	河 南	65.57	54.97	10.60	0.90
Hubei	湖 北	61.88	45.18	15.20	0.14
Hunan	湖 南	89.78	62.60	27.04	3.66
Guangdong	广 东	65.16	48.71	16.45	1.93
Guangxi	广 西	30.51	18.20	12.31	1.88
Sichuan	四 川	128.23	102.06	25.90	0.27
Guizhou	贵 州	36.23	24.02	6.20	0.04
Yunnan	云 南	49.16	34.16	15.00	0.20
Xizang	西 藏				
Shaanxi	陕 西	20.31	17.04	3.27	0.64
Gansu	甘 肃	19.00	16.06	2.94	0.14
Qinghai	青 海	3.60	0.48	0.66	1.48
Ningxia	宁 夏	4.25	4.63	0.22	
Xinjiang	新 疆	0.53	0.48	0.05	

Provided by State Statistical Bureau

- Key: (a) Place
 (b) Gross Output of Chemical Fertilizer (Standard Fertilizer)
 (c) Varieties
 (d) Nitrogen
 (e) Phosphate
 (f) Potash
 (g) Gross Output of Pesticides

Agricultural Modernization

Machine Cultivated Farmland in Each of the Provinces, Municipalities, and Autonomous Regions

Units: 10,000 mu

地 区 (a)	当年实际 (b) 机耕面积	当年实际 (c) 机播面积	当年实际 (d) 机收面积	(a) 地 区	有效灌溉 (e) 面 积	其中: 机电灌溉 (f) 面 积	机电灌溉 井(g) (万眼)	机电灌溉 面积占有 (h) %
National Total 全国总计	64,716.6	19,733.6	6,353.9	全国总计	66,860.7	27,846.2	200.1	56.6
Beijing 北 京	680.4	342.3	55.4	北 京	511.9	416.6	3.7	81.4
Tianjin 天 津	570.4	164.0	13.0	天 津	569.1	561.1	2.0	98.6
Hebei 河 北	4,050.3	1,740.5	323.0	河 北	5,321.9	4,670.8	68.3	87.8
Shanxi 山 西	2,210.1	313.0	19.3	山 西	1,659.8	1,139.5	8.6	68.7
Nei Monggol 内 蒙 古	1,620.7	965.4	400.5	内 蒙 古	1,556.6	748.3	7.6	48.1
Liaoning 辽 宁	2,045.7	839.8	1.8	辽 宁	1,677.3	850.9	6.9	79.8
Jilin 吉 林	2,006.1	1,533.5	18.0	吉 林	1,117.4	707.7	5.3	63.3
Heilongjiang 黑 龙 江	8,731.7	6,019.3	2,972.5	黑 龙 江	1,047.4	601.6	5.2	63.2
Shanghai 上 海	478.2	8.2	24.3	上 海	520.4	520.4		100.0
Jiangsu 江 苏	4,427.7	552.0	110.7	江 苏	5,183.5	4,767.0	3.0	92.0
Zhejiang 浙 江	1,360.4	...	13.0	浙 江	2,284.9	1,733.3	0.2	75.9
Anhui 安 徽	1,250.3	79.2	63.0	安 徽	3,590.0	2,509.1	10.1	69.9
Fujian 福 建	803.6	0.7	2.2	福 建	1,254.1	283.8	0.3	21.0
Jiangxi 江 西	890.6	4.1	0.6	江 西	2,507.0	724.2		28.9
Shandong 山 东	6,390.4	2,918.0	631.0	山 东	6,650.7	6,320.2	42.8	83.0
Henan 河 南	2,867.6	630.3	194.3	河 南	6,061.6	3,052.7	42.4	75.8
Hubei 湖 北	1,064.0	207.2	110.5	湖 北	3,557.7	2,105.7	0.6	59.2
Hunan 湖 南	771.6	12.6	11.1	湖 南	3,621.6	1,717.7	0.1	47.4
Guangdong 广 东	1,331.6	7.0	20.6	广 东	3,112.9	777.1	0.4	25.0
Guangxi 广 西	964.7	3.4	6.4	广 西	2,120.4	418.7	0.1	19.7
Sichuan 四 川	1,090.4	9.6	0.8	四 川	4,553.8	805.4	0.7	19.9
Guizhou 贵 州	19.0	0.2	0.2	贵 州	676.1	122.8	...	18.2
Yunnan 云 南	290.6	0.5	0.5	云 南	1,378.2	165.7	0.2	12.0
Xizang 西 藏	81.6	45.8	14.9	西 藏	218.7	5.6	...	2.6
Shaanxi 陕 西	1,590.9	1,004.2	33.8	陕 西	1,874.1	1,136.4	13.3	60.6
Gansu 甘 肃	733.0	265.4	66.6	甘 肃	1,273.9	464.8	3.5	36.5
Qinghai 青 海	225.7	190.7	74.5	青 海	239.4	33.5	0.1	14.0
Ningxia 宁 夏	244.3	150.6	26.3	宁 夏	342.2	39.9	0.7	11.7
Xinjiang 新 疆	3,020.6	2,393.5	1,109.7	新 疆	3,958.1	505.7	2.1	7.7

Provided by State Statistical Bureau

- Key: (a) Place
 (b) Current Year Actual Machine-plowed Area
 (c) Current Year Actual Machine-sown Area
 (d) Current Year Actual Machine-harvested Area
 (e) Effectively Irrigated Area
 (f) Included: Electromechanically irrigated and drained area
 (g) Electromechanically equipped wells (10,000 wells)
 (h) Percentage of effectively irrigated area that is electro-mechanically irrigated (%)

Farmland Area From Which Consistently High Yields May Be Guaranteed Despite Drought or Waterlogging in Each Province, Municipality, and Autonomous Region

Units: 10,000 tons

地 区 (a)	平均年产量 产量(万亩) (b)	地 区 (a)	化 肥 (c) 施用总量	其 (d) 中			
				氮 肥 (e)	磷 肥 (f)	钾 肥 (g)	复合肥 (h)
National Total 全国总计	34,966.8	全国总计	1,334.9	942.6	295.6	46.7	56.6
Beijing 北 京	288.6	北 京	10.1	7.4	2.7	---	---
Tianjin 天 津	274.6	天 津	4.6	3.4	0.2	0.1	0.3
Hebei 河 北	3,023.4	河 北	73.1	56.6	14.5	0.9	1.1
Shanxi 山 西	711.0	山 西	27.4	22.4	4.0	0.3	0.7
Nei Monggol 内 蒙 古	465.1	内 蒙 古	8.3	5.3	0.9	0.4	1.7
Liaoning 辽 宁	828.6	辽 宁	63.6	46.6	20.4	0.7	1.8
Jilin 吉 林	797.4	吉 林	31.2	26.5	5.6	0.3	5.4
Heilongjiang 黑 龙 江	361.3	黑 龙 江	35.7	16.1	13.1	0.5	6.0
Shanghai 上 海	471.6	上 海	17.0	114.6	2.3	---	0.1
Jiangsu 江 苏	3,737.4	江 苏	125.3	94.6	27.2	1.9	1.6
Zhejiang 浙 江	997.1	浙 江	62.6	49.5	11.1	0.7	1.3
Anhui 安 徽	1,296.2	安 徽	72.1	48.4	18.1	2.0	3.6
Fujian 福 建	626.4	福 建	39.6	26.4	8.7	3.1	0.8
Jiangxi 江 西	1,109.4	江 西	37.6	25.9	9.1	2.2	0.4
Shandong 山 东	4,106.3	山 东	146.4	101.4	34.0	2.5	8.5
Henan 河 南	2,885.0	河 南	82.5	57.2	15.3	2.2	7.8
Hubei 湖 北	1,492.1	湖 北	57.4	44.1	8.8	1.8	2.7
Hunan 湖 南	2,442.3	湖 南	84.9	53.7	21.5	0.2	1.5
Guangdong 广 东	2,239.6	广 东	85.7	62.8	16.2	6.5	1.2
Guangxi 广 西	1,216.2	广 西	44.6	27.6	12.5	3.3	1.2
Sichuan 四 川	2,431.1	四 川	119.2	87.3	29.2	1.1	1.6
Guizhou 贵 州	442.1	贵 州	22.6	16.8	4.8	0.4	0.6
Yunnan 云 南	863.6	云 南	25.6	18.6	6.7	0.4	0.7
Xizang 西 藏	49.4	西 藏	0.2	0.1	---	---	0.1
Shaanxi 陕 西	1,058.5	陕 西	26.6	21.1	3.5	1.0	2.2
Gansu 甘 肃	695.9	甘 肃	12.9	8.7	2.8	0.4	1.9
Qinghai 青 海	160.2	青 海	3.1	1.3	1.1	0.1	0.6
Ningxia 宁 夏	208.6	宁 夏	4.3	2.6	1.0	---	0.5
Xinjiang 新 疆	464.7	新 疆	12.1	7.4	2.9	0.2	1.6

Provided by State Statistical Bureau

Provided by Planning Bureau, Ministry of Agriculture

Key: (a) Place

(b) Farmland from which consistently high yields may be guaranteed despite drought or waterlogging (10,000 mu)

(c) Total amount of chemical fertilizer applied

(d) Including

(e) Nitrogen

(f) Phosphate

(g) Potash

(h) Compound Fertilizer

Rural Electricity Use in Each Province,
Municipality, and Autonomous Region

Methane Pits in Each Province,
Municipality, and Autonomous Region

地 区 (a)	农村 用电量 (亿度) (b)	农村人民公社办 事 (c) 电 站		生产大队和生产队办 事 (d) 电 站		地 区 (a)	沼 气 池 (g) (个)
		个 数 (个) e	发电能力 (万千瓦) f	个 数 (个) e	发电能力 (万千瓦) f		
National Total 全国总计	368.9	12,548	204.6	6,146.9	131.4	全国总计	4,554,154
Beijing 北 京	9.3	45	1.3	27	0.3	北 京	30,944
Tianjin 天 津	8.7					天 津	2,525
Hebei 河 北	38.8	88	1.8	306	1.4	河 北	31,833
Shanxi 山 西	14.1	84	1.3	284	3.3	山 西	1,223
Nei Monggol 内 蒙 古	8.8	8	0.1	10	0.1	内 蒙 古	1,638
Liaoning 辽 宁	28.3	82	1.3	28	0.3	辽 宁	38,804
Jilin 吉 林	11.3	43	1.5	22	0.2	吉 林	3,959
Heilongjiang 黑 龙 江	16.9	31	5.5	18	0.2	黑 龙 江	6,005
Shanghai 上 海	13.7					上 海	62,191
Jiangsu 江 苏	38.9	22	0.2	37	0.1	江 苏	558,791
Zhejiang 浙 江	24.2	1,826	17.3	4,779	11.3	浙 江	368,869
Anhui 安 徽	8.4	154	1.4	1,638	3.8	安 徽	23,788
Fujian 福 建	7.1	871	22.5	7,219	22.8	福 建	18,851
Jiangxi 江 西	5.4	871	18.4	4,839	6.8	江 西	11,195
Shandong 山 东	24.3	57	8.8	134	0.3	山 东	254,339
Henan 河 南	28.8	214	3.8	1,821	3.9	河 南	22,631
Hubei 湖 北	11.1	711	12.5	1,661	5.2	湖 北	118,289
Hunan 湖 南	11.2	1,343	21.4	7,369	12.0	湖 南	111,475
Guangdong 广 东	15.7	1,635	35.8	9,869	18.8	广 东	44,212
Guangxi 广 西	4.8	533	7.9	7,414	7.9	广 西	34,478
Sichuan 四 川	16.2	2,298	29.7	5,453	11.6	四 川	2,727,000
Guizhou 贵 州	3.1	827	9.8	3,188	6.1	贵 州	25
Yunnan 云 南	8.4	483	9.7	5,147	12.7	云 南	9,790
Xizang 内 蒙 古	0.1	388	1.8	148	0.3	西 藏	
Shaanxi 陕 西	14.3	258	1.8	869	1.3	陕 西	21,919
Gansu 甘 肃	8.7	147	1.5	287	1.2	甘 肃	8,061
Qinghai 青 海	8.8	58	8.5	87	0.2	青 海	17
Ningxia 宁 夏	1.4			1	—	宁 夏	529
Xinjiang 新 疆	5.7	394	5.7	224	1.3	新 疆	488

Provided by State Statistical Bureau

Provided by Planning Bureau, Ministry
of Agriculture

Key: (a) Place

(b) Rural Electricity Use
(100 million kwh)

(c) Rural People's Commune
Operated Hydropower Stations

(d) Production Brigade and Pro-
duction Team Operated
Hydropower Stations

(e) Units

(f) Electric power capacity (10,000 kw)

(g) Methane Pits (Units)

Investment in Agricultural Capital Construction

Investment in Capital Construction in Each Province, Municipality, and Autonomous Region (Actual Amount Invested During the Year)

Units: 10,000 yuan

地 区 (a)		黄金总值 (b)	(c) 元				
			投资合计	黄金投资 (d)	本产投资 (e)	外国投资 (f)	其他投资 (g)
National Total	全国总计	292.122	113.790	14.938	131.325	20.529	3.549
Beijing	北 京	0.539	2.640	170	2.373	635	1.321
Tianjin	天 津	2.724	770	90	1.761	50	45
Hebei	河 北	13.132	1.441	440	10.713	477	50
Shanxi	山 西	4.003	537	37	2.074	1.227	20
Nei Monggol	内 蒙 古	0.095	2.001	42	722	2.201	129
Liaoning	辽 宁	0.040	2.629	2.051	3.257	1.251	81
Jilin	吉 林	5.153	1.255	200	2.070	645	67
Heilongjiang	黑 龙 江	20.951	23.790	473	2.450	2.190	34
Shanghai	上 海	5.460	2.992	673	1.455	50	90
Jiangsu	江 苏	1.910	1.196	670	2.046	150	30
Zhejiang	浙 江	0.661	1.403	800	3.070	473	30
Anhui	安 徽	5.420	871	363	3.029	305	70
Fujian	福 建	0.722	2.523	1.007	2.010	1.200	70
Jiangxi	江 西	5.440	1.400	210	2.720	747	93
Shandong	山 东	0.243	1.115	1.150	5.502	604	66
Henan	河 南	14.253	910		12.504	723	67
Hubei	湖 北	11.707	1.702	600	7.004	1.297	105
Hunan	湖 南	7.420	1.270	463	5.151	720	67
Guangdong	广 东	54.670	32.795	2.537	12.009	6.113	136
Guangxi	广 西	0.373	3.330	323	3.137	2.540	34
Sichuan	四 川	10.310	1.900	90	7.050	523	134
Guizhou	贵 州	2.770	520		1.647	563	32
Yunnan	云 南	10.020	4.630	27	5.406	700	37
Xizang	西 藏	520	110		230	97	90
Shaanxi	陕 西	0.045	1.401	55	3.234	1.000	75
Gansu	甘 肃	0.071	1.163		4.346	1.005	57
Qinghai	青 海	2.190	1.210	80	1.371	214	72
Ningxia	宁 夏	2.141	501	17	1.135	320	50
Xinjiang	新 疆	0.420	4.901	55	3.670	520	270
Not broken down by region		11.240			11.240		

Provided by State Statistical Bureau

- Key: (a) Place
 (b) Total Investment in Farmland Capital Construction
 (c) Including
 (d) Farming Investment
 (e) Aquatic Products Investment
 (f) Water Conservancy Investment
 (g) Forestry Investment
 (h) Investment in Meteorology

Rural Finance and Banking

Chinese Agricultural Bank 1981 Savings and Loan Interest Rates

Particulars	Interest Rates (Monthly Interest per thousand)
Unit savings (entrepreneurial units)	1.5
Individual urban and rural resident savings deposits	
1. Demand deposits	2.4
2. Fixed deposits	
Half Year	3.6
Year	4.5
Three years	5.1
Five years	5.7
Overseas Chinese renminbi savings deposits	
Fixed deposits	
Year	4.8
Three years	5.4
Five years	6.0
Loans for state-owned farm production expenses	3.6
Loans for state-owned farm production equipment	3.6
Loans for commune and brigade agricultural expenses	3.6
Loans for commune and brigade agricultural production equipment	1.8
Loans for commune and brigade enterprise breeding and production expenses	3.6
Loans for commune and brigade enterprise breeding and production equipment	1.8
Loans for commune and brigade enterprise industrial and commercial production expenses	4.2
Loans for commune and brigade enterprise industrial and commercial production equipment	4.2
Special loans for farm machinery	1.8
Loans to individual commune members	3.6 - 4.2
Loans for small hydropower production expenses	3.6
Loans for small hydropower production equipment	1.8

[Table continues]

Particulars	Interest Rates (Monthly interest per thousand)
Loans to individual economic households	4.2
Loans to intellectual youth-operated collective enterprises	3.6
Commercial loans	4.2
Pre-arranged fixed sum loans	3.6
Medium and short term equipment loans	4.2

Provided by Chinese Agricultural Bank

Issuance and Repayment of Loans to Chinese Agricultural Bank and to Credit Cooperatives

Unit: 100 million yuan

项 目 (a)	(b) 累 计 发 出 数		(c) 累 计 收 回 数	
	1980年	1981年	1980年	1981年
(d) 社队农业贷款	144.9	160.7	119.3	149.3
(e) 社队企业贷款	122.9	139.0	86.5	121.0
(f) 国营农业贷款	23.8	33.1	21.0	25.7
(g) 合 计	291.6	332.8	226.8	296.0

Provided by Chinese Agricultural Bank

- Key: (a) Particulars
 (b) Cumulative Amount Issued
 (c) Cumulative Amounts Repaid
 (d) Commune and brigade agricultural loans
 (e) Commune and brigade enterprise loans
 (f) State-owned enterprise agricultural loans
 (g) Total

Year-end Rural Savings Deposits Situation in Each Province, Municipality, and Autonomous Region

Units: 100 million yuan

地 区	农村储蓄 存款合计	其 中		比1980年末 增 加 %	人 均 储 蓄 (元)	比1980年末 净 增 (元)
		农业银行 存款储蓄	信用社 社员储蓄			
National Total 全 国	211.89	42.22	169.47	41.9	25.85	7.63
Beijing 北 京	3.12	1.47	1.65	38.1	83.16	22.92
Tianjin 天 津	1.57	0.25	1.32	48.6	43.99	14.38
Hubei 河 北	14.55	1.34	13.21	51.4	31.96	18.85
Shanxi 山 西	7.37	0.17	7.20	39.9	36.18	18.31
Nei Monggol 内 蒙 古	2.86	0.31	2.55	48.5	20.68	6.78
Liaoning 辽 宁	9.88	0.45	9.43	48.0	43.92	13.23
Jilin 吉 林	4.14	0.05	4.09	56.2	27.82	18.80
Heilongjiang 黑 龙 江	8.28	2.32	5.96	45.9	41.16	12.94
Shanghai 上 海	4.28	0.88	3.40	21.5	96.42	17.06
Jiangsu 江 苏	14.92	6.34	8.58	36.8	29.34	7.76
Zhejiang 浙 江	10.87	2.51	8.36	29.1	32.49	7.12
Anhui 安 徽	5.56	0.74	4.82	57.6	12.82	4.68
Fujian 福 建	7.09	2.42	4.67	42.1	32.96	9.77
Jiangxi 江 西	4.60	1.30	3.30	42.1	16.64	4.94
Shandong 山 东	24.78	0.38	24.40	36.5	37.52	18.03
Henan 河 南	13.42	2.06	11.36	48.8	20.31	6.66
Hubei 湖 北	7.32	1.14	6.18	38.9	18.59	8.20
Hunan 湖 南	8.99	1.46	5.53	47.4	15.01	4.83
Guangdong 广 东	25.15	4.00	21.15	49.3	62.57	17.36
Guangxi 广 西	4.30	1.48	2.84	37.2	13.68	3.71
Sichuan 四 川	18.94	2.68	16.26	37.0	12.69	3.43
Guizhou 贵 州	1.63	0.47	1.16	58.6	6.65	2.45
Yunnan 云 南	3.22	1.21	2.01	49.2	11.37	3.75
Xizang 西 藏	0.14	-	0.14	-	8.80	-
Shaanxi 陕 西	5.68	1.60	4.08	34.5	23.76	8.09
Gansu 甘 肃	1.81	0.55	1.26	38.9	11.60	2.74
Qinghai 青 海	0.63	0.31	0.32	33.8	22.58	5.71
Ningxia 宁 夏	0.64	0.20	0.44	36.0	20.99	5.55
Xinjiang 新 疆	5.85	4.14	1.71	37.1	64.25	17.38

Source of data: NONGGUN JINRONG [RURAL FINANCE AND BANKING] Issue 3, 1982

Key: (a) Place (e) Credit Cooperative Savings
 (b) Total Rural Savings Deposits (f) Increase Since End of 1980 %
 (c) Including (g) Average Per Capita Savings (Yuan)
 (d) Agricultural Bank Market (h) Net Increase Since End of 1980
 Town Savings (Yuan)

Average Per Capita Year-end Rural Savings in Counties, Communes, and Stations Nationwide

County (or City) Branch Banks	Average Per Capita Savings	Credit Cooperative (or office or commune)	Average Per Capita Savings	Credit Station	Units: Yuan	
					Average Per Capita Savings	Average Per Capita Savings
Golmud City, Qinghai	388	Xiangzhou Commune, Zhuhai, Guangdong	980	Huangzhuchi, Yanbu, Nanhai, Guangdong	1142	
Zhuhai, Guangdong	362	Shajing Office and Commune, Shenchuan, Guangdong	721	Yingdacunjian, Fangshanshijia, Beijing	1105	
Shihezi, Xinjiang	357	Wangjiawubao Commune, Jinxian, Liaoning	640	Xinjiao, Guangzhou, Guangdong	906	
Shenchuan, Guangdong	326	Delinghagebi office and commune, Qinghai	623	Houheyu, Wuqing Tianjin	905	
Kui City, Xinjiang	289	Enjiang commune, Shuifeng, Jiangxi	553	Daguzhuang, Yangquan, Shanxi	771	
Nanhai, Guangdong	260	Golmud Tanggulangshan commune, Qinghai	539	Lianxingzhuangtou Guangdong	650	
Kaiping, Guangdong	258	Yanbu office and commune, Nanhai, Guangdong	500	Halkoutongfu, Dexing, Jiangxi	631	
Ganjingziban, Dalian, Liaoning	237	Yuefu office and commune, Baoshan Shanghai	439	Diejiao, Nanhai, Guangdong	618	
Changdao, Shandong	229	Weihai Municipal District commune, Shandong	400	Hongzigu, north suburb of Taiyuan, Shanxi	612	
Akese, Gansu	225	Heping office and commune, Akese, Gansu	400	Chenxing, Fuyujia Jilin	572	
Delinghaban, Qinghai	220	Xinjiao office and commune, Guangzhou, Guangdong	383	Shangtai, Changchun suburbs, Jilin	546	

[Table continued]

County (or City) Branch Banks	Average Per Capita Savings	Credit Cooperative (or office or commune)	Average Per Capita Savings	Credit Station	Average Per Capita Savings
Shunde, Guangdong	219	Chencun office and commune, Shunde, Guangdong	367	Chang, Yangdianxiaolou, Renqiu, Nebel	521
Subei, Gansu	210	Yalu Jiang commune, Zhenan, Liaoning	361	Yingsheng, Taishan, Taian, Shandong	504
Suburbs of Guangzhou, Guangdong	208	Sandaohu commune, Jingyu, Jilin	354	Pingyi, Pingzhou, Nanhai, Guangdong	491
Weihai, Shandong	204	Shajiao Commune and office, Shunde, Guangdong	351	Wuzhiqiaozhuang, Henan	475
Tianjun, Qinghai	183	Minzhu commune, Akese, Gansu	350	Jiaohe, Xinjiao, Guangzhou, Guangdong	466
Sanshui, Guangdong	174	Yangquan commune, Tianjun, Qinghai	344	Jinte, Yao County Henan	466
Xinhui, Guangdong	173	Shahe commune and office, Guangzhou, Guangdong	341	Xiyang Coal Mine Shanxi	464
Baoshan, Shanghai	171	Yanshiwan Commune, Subei, Gansu	335	Liuzhuang, Xinxiang, Henan	442
Dongguan, Guangdong	168	Chengguan Commune, Zhenhai, Zhejiang	334	Xinqi, Banqiao, Tining, Anhui	438

Source of data: NONGGUN JINRONG [RURAL BANKING AND FINANCE], Issue 9, 1982

[Table continues]

County (or City) Branch Banks	Savings Balances	Credit Cooperative (or office or commune)	Savings Balances	Credit Stations	Savings Balances
Panyu, Guangdong	7,786	Chencun office and commune, Shunde, Guangdong	1,485	Liulian, Yanbu, Nanhai, Guangdong	89
Wendong, Shandong	7,379	Shajing office and commune, Shenchuan, Guangdong	1,443	Michong, Yanbu, Nanhai, Guangdong	85
Rongcheng, Shandong	6,816	Shijing office and commune, Guangzhou, Guangdong	1,394	Qudong, Shijing, Nan'an, Fujian	82
Changshu, Jiangsu	6,687	Guzhen commune, Zhongshan, Guangdong	1,374	Dayu Island, Rongweishi Islands, Shandong	81
Huangxian, Shandong	6,518	Changping office and commune, Dongguan, Guangdong	1,369	Xusheng, Zhangjiufu, Shandong	80
Linxian, Henan	6,280	Shuikou office and commune, Kaiping, Guangdong	1,333	Dubei, Dubeiqian, Shijiazhuang, Hebei	78
Zhaoyuan, Shandong	5,664	Guizhou office and commune, Shunde, Guangdong	1,263	Huaidi, Shijiazhuang, Hebei Province	78
Qidong, Jiangsu	5,500	Xiaotang office and commune, Nanhai, Guangdong	1,261	Changbing, Tingjiang, suburban Fuzhou, Fujian	78
Jinjiang, Fujian	5,407	Nanzhuang office and commune, Nanhai, Guangdong	1,244	Donger, Pingzhou, Nanhai, Guangdong	75

Note: A credit station means a credit station run by a production brigade.

Source of data: NONGGUN JINRONG [RURAL FINANCE AND BANKING], Issue 9, 1982

State Grain Procurement, Rural Businesses, and Country Fair Trade

Status of Fulfillment of National State Grain Procurement Plans

Particulars	Units	1981	Increase or Decrease in 1981 From Same Period in 1980	
			Absolute Figures	Percent
Grain in storage	100 million jin	995	49	5.2
Plan overfulfillment	%	3.6		

Note: Statistical figures in this table are as of 15 January 1982

Source of data: RENMIN RIBAO, 21 January 1982

Increase or Decrease in State Procurement of Agricultural Sideline Products From Society as a Whole

		Units	State purchases 1981	State purchases 1980	Increase or Decrease in 1981 over 1980	
					Absolute figures	%
Cotton	棉花	10,000 dan	5,744.0	5,220.5	523.5	10.0
Jute & ambari hemp	黄红麻(麻类)	"	1,223.6	1,088.2	135.4	12.4
Hemp	大麻	"	60.8	108.7	-47.9	-44.1
Mulberry silkworm cocoon	桑蚕茧	"	441.8	485.7	-43.9	-9.0
Tea	茶叶	"	646.7	523.0	123.7	23.7
Sugarcane	甘蔗	"	1,726.1	1,584.0	142.1	9.0
Sugarbeets	甜菜	"	572.9	554.1	18.8	3.4
Flue-cured tobacco	烤烟	"	2,517.5	1,398.0	1,120.6	80.2
Fattened hogs	肥猪	10,000 head	13,723.8	14,250.0	-526.2	-3.7
Beef cattle	黄牛	"	241.4	221.6	19.8	8.9
Slaughter sheep	宰羊	"	2,068.2	1,880.2	388.0	23.1
Poultry	家禽	10,000	31,198.5	26,602.6	4,595.9	17.3
Fresh eggs	鲜蛋	10,000 dan	1,978.9	1,982.3	-3.4	-0.2
Sheep wool	羊毛	10,000 jin	34,011.0	32,205.2	1,805.8	5.6
Aquatic products	水产品	10,000 ton	244.0	239.3	4.7	2.0

Provided by State Statistical Bureau

National Status of Urban and Rural Country Fair Trade

(a) 期	(b) 项	(c) 城乡集市数 (个)	(d) 其中		g 城乡集市贸易成交总额 (h) (亿元)	(d) 其中	
			农村 (e) 村 (j) (个)	城镇 (f) 市 (j) (个)		农村 (e) 村 (j) (亿元)	城镇 (f) 市 (j) (亿元)
1979年		38.893	36.767	2.226	183	171	12
1980年		40.809	37.890	2.919	235	211	24
1981年		43.013	39.715	3.298	287	253	34

Provided by Industrial and Commercial Administration Head Office and Market Control Bureau

Key: (a) Date
 (b) Item
 (c) City and Rural Country Fairs (Units)
 (d) Including
 (e) Rural
 (f) Urban
 (g) Volume of Transactions in Urban and Rural Country Fairs
 (h) (100 million yuan)
 (i) Including

Commune Member Standard of Living

Commune Member Net Income

	Per Capita Average (yuan)		Composition %		1981 versus:
	1981	1980	1981	1980	1980 %
Total commune member net income 社员纯收入合计	223.44	191.33	100.0	100.0	116.8
1. Income derived from collective 一. 从集体得到的收入	116.20	108.37	52.0	56.6	107.2
2. Income derived from family sideline 二. 家庭副业纯收入 occupations	84.52	62.55	37.8	32.7	135.1
3. Other non-bor- 三. 其他非借贷性收入 rowed income	22.72	20.41	10.2	10.7	111.3

Note: Figures in this table compiled from a survey of income and expenditures of more than 18,000 households throughout the country.

Provided by State Statistical Bureau

Commune Member Net Income from Family Sideline Occupations

	平均每人(元)		构 成 (%)		1981年为
	1981年	1980年	1981年	1980年	1980年 %
Net income from family sideline occupations	84.52	62.55	100.0	100.0	135.1
1. Income from private farm and forestry	28.82	21.93	34.1	35.0	131.4
2. Income from domestic livestock, poultry, and other small animals	33.03	25.71	39.1	41.1	128.5
3. Income from family handicrafts	3.75	2.87	4.4	4.6	130.7
4. Income from hunting, fishing, and gathering	6.16	5.00	3.7	9.3	106.2
5. Income from other family sideline occupations	12.76	6.24	15.1	10.0	204.5

Note: Figures in this table compiled from a survey of income and expenditures of more than 18,000 households throughout the country.

Provided by State Statistical Bureau

Key: (a) Per Capita Average (Yuan)
 (b) Composition %
 (c) 1981 versus 1980 %

Each Province, Municipality, and Autonomous Region (1)

Units: 100 million yuan

地 区		一. 总 收 入	二. 另 收 费 用	其中: 生 产 费 用	三. 纯 收 入
(a)		(b)	(c)	(d)	(e)
National Total	全国总计	1,368.79	427.42	392.40	933.37
Beijing	北 京	16.58	7.19	6.06	9.39
Tianjin	天 津	16.33	3.00	3.53	6.53
Hebei	河 北	76.72	24.31	20.96	46.41
Shanxi	山 西	30.67	10.00	10.00	20.69
Nei Monggol	内 蒙 古	19.67	5.95	5.28	13.92
Liaoning	辽 宁	54.34	21.46	19.82	32.88
Jilin	吉 林	37.37	12.96	12.02	24.41
Heilongjiang	黑 龙 江	43.46	16.07	15.03	27.39
Shanghai	上 海	14.11	6.78	6.50	7.33
Jiangsu	江 苏	111.40	41.54	38.44	69.86
Zhejiang	浙 江	67.20	17.40	16.66	39.86
Anhui	安 徽	75.61	16.04	16.36	57.47
Fujian	福 建	29.21	0.48	7.05	20.73
Jiangxi	江 西	30.41	10.14	9.21	20.27
Shandong	山 东	138.54	42.06	38.62	95.68
Henan	河 南	106.72	31.83	27.55	74.89
Hubei	湖 北	68.56	21.63	19.79	46.73
Hunan	湖 南	79.63	23.45	21.83	56.18
Guangdong	广 东	90.18	25.30	22.60	64.98
Guangxi	广 西	37.56	9.21	8.29	28.35
Sichuan	四 川	119.95	36.00	35.11	74.87
Guizhou	贵 州	28.82	3.66	3.37	17.16
Yunnan	云 南	29.53	6.22	5.83	23.31
Xizang	内 蒙	2.97	0.38	0.32	2.59
Shaanxi	陕 西	26.64	8.97	7.90	17.71
Gansu	甘 肃	15.67	5.19	4.68	10.48
Qinghai	青 海	4.19	1.21	1.13	2.98
Ningxia	宁 夏	4.16	1.55	1.41	2.61
Xinjiang	新 疆	13.99	4.48	4.32	9.51

Key: (a) Place
(b) 1. Gross Income
(c) 2. Expenses

(d) Including: Production costs
(e) 3. Net Income

**Distribution of Income by Rural People's Communes Basic Accounting Units in
Each Province, Municipality, and Autonomous Region (2)**

(Absolute Figures) Units: 100 million yuan

地 区 (a)	1. 国家税收 (b)	2. 集体提留 (c)	(d) 其 中		(g) 1. 社员分配	
			公 积 金 (e)	公 益 金 (f)	合 计 (h)	平均每人 分配收入 (元) (i)
National Total 全国总计	29.81	89.12	48.40	18.56	805.16	101.32
Beijing 北 京	0.43	1.65	0.99	0.26	7.31	203.34
Tianjin 天 津	0.21	1.00	0.64	0.20	5.37	153.06
Hebei 河 北	1.73	5.48	2.96	0.78	29.33	86.15
Shanxi 山 西	1.31	2.63	1.71	0.49	16.16	79.57
Nei Monggol 内 蒙 古	0.72	1.81	0.48	0.24	12.22	93.18
Liaoning 辽 宁	1.52	5.79	2.75	1.49	25.69	125.29
Jilin 吉 林	1.47	3.11	1.81	0.57	19.83	144.06
Heilongjiang 黑 龙 江	1.61	4.97	2.42	0.97	21.16	120.81
Shanghai 上 海	0.54	1.04	0.58	0.35	5.75	177.58
Jiangsu 江 苏	2.62	9.36	4.55	2.24	57.90	129.77
Zhejiang 浙 江	1.78	3.68	2.42	0.74	34.40	111.57
Anhui 安 徽	2.29	2.42	0.82	0.49	52.76	127.64
Fujian 福 建	0.88	1.24	0.71	0.41	12.80	91.84
Jiangxi 江 西	1.45	2.81	1.62	0.77	25.81	96.62
Shandong 山 东	2.31	18.83	8.15	1.73	82.55	128.29
Henan 河 南	2.28	6.29	3.43	1.27	46.32	108.82
Hubei 湖 北	2.89	5.32	2.85	1.16	38.72	102.45
Hunan 湖 南	2.53	4.18	2.15	0.81	49.48	107.36
Guangdong 广 东	2.43	4.14	2.23	0.90	38.41	130.81
Guangxi 广 西	1.10	1.36	0.58	0.23	25.89	82.84
Sichuan 四 川	4.26	5.61	3.07	1.41	84.90	75.38
Guizhou 贵 州	0.71	0.27	0.06	0.06	16.18	65.71
Yunnan 云 南	0.81	1.54	0.83	0.22	28.96	74.53
Xizang 西 藏	-	0.22	0.06	0.02	2.37	137.35
Shaanxi 陕 西	1.12	1.80	1.04	0.37	14.79	62.42
Gansu 甘 肃	0.41	0.78	0.35	0.15	9.34	56.79
Qinghai 青 海	0.14	0.27	0.15	0.05	2.57	83.21
Ningxia 宁 夏	0.89	0.12	0.06	0.03	2.40	81.81
Xinjiang 新 疆	0.43	1.18	0.62	0.17	7.38	113.99

Provided by State Statistical Bureau

- | | |
|--------------------------------------|---|
| Key: (a) Place | (f) Public Welfare Funds |
| (b) 1. State Tax Revenues | (g) 3. Commune Member Distributions |
| (c) 2. Withholdings from collectives | (h) Total |
| (d) Including: | (i) Average Per Capita Income Distribution (yuan) |
| (e) Accumulation Funds | |

Composition of Income Distribution of Rural People's Commune Basic Accounting Units in Each Province, Municipality, and Autonomous Region (1)

地 区	一、总收入	二、总费用	其中：生产费用	三、净收入
(a)	(b)	(c)	(d)	(e)
National Total 全国总计	100.00	31.41	28.84	68.59
Beijing 北 京	100.00	43.37	41.37	56.63
Tianjin 天 津	100.00	36.79	34.17	63.21
Hebei 河 北	100.00	34.30	29.26	65.69
Shanxi 山 西	100.00	35.13	32.29	64.87
Nei Monggol 内 蒙 古	100.00	29.94	26.57	70.06
Liaoning 辽 宁	100.00	39.49	36.47	60.51
Jilin 吉 林	100.00	34.68	32.16	65.32
Heilongjiang 黑 龙 江	100.00	36.98	34.58	63.02
Shanghai 上 海	100.00	48.05	46.87	51.95
Jiangsu 江 苏	100.00	37.29	34.51	62.71
Zhejiang 浙 江	100.00	30.29	29.10	69.71
Anhui 安 徽	100.00	23.89	21.67	76.11
Fujian 福 建	100.00	29.83	27.22	70.17
Jiangxi 江 西	100.00	25.73	23.37	74.27
Shandong 山 东	100.00	30.94	29.00	69.06
Henan 河 南	100.00	29.83	25.82	70.17
Hubei 湖 北	100.00	31.84	29.87	68.16
Hunan 湖 南	100.00	29.45	27.16	70.55
Guangdong 广 东	100.00	29.02	25.83	71.00
Guangxi 广 西	100.00	24.52	22.67	75.48
Sichuan 四 川	100.00	32.52	31.44	67.48
Guizhou 贵 州	100.00	17.58	15.95	82.42
Yunnan 云 南	100.00	31.06	19.74	78.94
Xizang 西 藏	100.00	12.79	10.77	87.21
Shaanxi 陕 西	100.00	33.62	29.91	69.38
Gansu 甘 肃	100.00	33.12	31.14	66.88
Qinghai 青 海	100.00	29.88	26.97	73.12
Ningxia 宁 夏	100.00	37.26	33.89	62.74
Xinjiang 新 疆	100.00	33.45	30.83	69.55

Key: (a) Place
 (b) 1. Gross Income
 (c) 2. Costs
 (d) Including: Production Expenses
 (e) Net Income

Composition of Income Distribution by Rural People's Commune Basic Accounting Units in Each Province, Municipality and Autonomous Region (2)

(a) 地 区	(b) 1. 国家税收	(c) 2. 集体提留	(d) 其 中		3. 社员分配 (g)
			公 积 金 (e)	公 益 金 (f)	
National Total 全国总计	2.92	9.55	3.58	1.38	59.17
Beijing 北 京	1.59	9.95	5.97	1.57	41.00
Tianjin 天 津	2.83	9.86	6.29	1.84	51.90
Hebei 河 北	2.45	7.75	4.19	1.67	55.81
Shanxi 山 西	4.23	9.49	5.52	1.58	52.18
Nei Monggol 内 蒙 古	3.62	5.00	2.42	1.21	61.50
Liaoning 辽 宁	2.80	10.66	5.06	2.74	47.29
Jilin 吉 林	3.93	8.32	4.84	1.53	52.87
Heilongjiang 黑 龙 江	3.79	11.44	7.09	2.23	48.89
Shanghai 上 海	3.83	7.37	4.11	2.48	46.75
Jiangsu 江 苏	2.35	8.48	4.08	2.01	51.97
Zhejiang 浙 江	3.11	8.42	4.23	1.29	60.08
Anhui 安 徽	3.83	3.21	1.22	0.66	69.87
Fujian 福 建	2.36	4.25	2.43	1.40	64.36
Jiangxi 江 西	3.68	5.18	2.58	1.05	65.49
Shandong 山 东	1.67	7.83	4.44	1.25	59.58
Henan 河 南	2.14	5.89	3.21	1.19	62.14
Hubei 湖 北	3.82	7.78	3.87	1.89	56.48
Hunan 湖 南	3.18	5.27	2.79	1.02	62.75
Guangdong 广 东	1.69	4.59	2.47	1.00	64.70
Guangxi 广 西	2.93	3.42	1.54	0.81	68.93
Sichuan 四 川	3.93	5.06	2.77	1.27	58.49
Guizhou 贵 州	3.41	1.30	0.29	0.24	77.71
Yunnan 云 南	2.74	5.27	2.81	0.75	79.98
Xizang 西 藏	-	7.41	2.82	0.87	79.80
Shaanxi 陕 西	4.29	6.75	3.80	1.39	55.43
Gansu 甘 肃	2.81	4.47	2.23	0.96	59.60
Qinghai 青 海	3.34	6.44	3.58	1.19	61.34
Ningxia 宁 夏	2.14	2.89	1.44	0.72	57.89
Xinjiang 新 疆	3.08	7.86	4.43	1.22	55.41

Provided by State Statistical Bureau

Key: (a) Place (f) Public Welfare Funds
 (b) 1. State Tax Revenues (g) 3. Commune Member
 (c) 2. Withholdings by Collectives Income
 (d) Including Distribution
 (e) Accumulation Funds

Counties and Production Brigades in Which Per Capita Income Averages More Than 300 Yuan

	Units	1981	1980	Increase or Decrease in 1981 vs 1980	
				Absolute Figures	%
Counties in which average collective income distribution is more than 300 yuan	Units	49	22	27	122.7

Including:

More than 400 yuan Units 9

Production brigades in which average collective income distribution is more than 300 yuan

Units 10,945 5,569 5,376 96.5

Source of data: ZHONGGUO NONGMIN BAO [CHINA PEASANT NEWS], 2 May 1982

Average Amount of Major Durable Consumer Goods Owned Per 100 Capita 1978 - 1981

Goods	Units	1978	1979	1980	1981	Increase or Decrease in 1981 vs 1978	
						Absolute Figures	%
Sewing Machines	Units	3.5	4.0	4.7	5.5	2.0	57.1
Rural	■	2.4	2.7	3.2	3.8	1.4	58.3
City & Town	■	6.6	9.8	11.2	13.2	6.6	100.0
Bicycles	■	7.7	8.6	9.7	11.1	3.4	44.2
Rural	■	4.3	4.9	5.6	6.4	2.1	48.8
City & Town	■	23.3	25.9	27.9	31.7	8.4	36.1
Wristwatches	Units	8.5	10.4	12.9	15.7	7.2	84.7
Rural	■	4.0	4.8	5.8	7.0	3.0	75.0
City & Town	■	29.3	35.2	44.4	54.0	24.7	84.3
Radios	■	7.8	9.4	12.1	14.9	7.1	91.0
Rural	■	3.1	3.3	3.1	3.2	0.1	3.2
City & Town	■	20.2	23.3	29.6	36.4	16.2	80.2
Televisions	■	0.3	0.5	0.9	1.6	1.3	433.3
Rural	■	0.1	0.2	0.3	0.6	0.5	500.0
City & Town	■	1.3	2.0	3.5	5.8	4.5	346.2

Rural Housing

Amount of Rural Housing Construction and Construction Materials Used

Particulars	Units	1981	1980	Increase or Decrease in 1981 vs 1980	
				<u>Absolute Figures</u>	<u>%</u>
Peasant households building new houses	10,000	About 800	About 500	300	60.0
Total area built	100 million m ³	6	3	3	50.0
Cement and structural members provided by building materials sector	10,000 m ³	Almost 200			
Glass provided by building materials sector	10,000 standard cases	80	50	30	60.0

Source of data: RENMIN RIBAO, 23 Jan 1982

GENERAL CONDITION ON AGRICULTURE

[Original source pp 96-121]

[Text] Agriculture

Survey of Agricultural Production in 1981

During 1981 China's agriculture triumphed over serious natural disasters to continue the trend of steady development it has maintained ever since 1978. Rural villages throughout the land were exuberant, and the broad masses of commune members jubilant. Rural development was on the way up, and rural villages as a whole continued to develop in the direction of prosperity and growth.

Natural conditions throughout the country were extraordinarily unfavorable in 1981. Close on the heels of the large scale flooding in south China and drought in north China of 1980, many serious natural calamities occurred in 1981. The seriousness of these calamities and the depth of damage they caused was such as had not occurred for many years. Flood disasters, typhoons, hailstorms, frosts, and damage caused by rats occurred several times during 1981, drought and floods being particularly serious. Almost one-third the country's total farm crop area was calamity stricken.

Flood damage was most severe during 1981. Because of the highly concentrated rainfall, rivers turned into torrents and flooded their banks causing mountain landslides and rock and mud slides, which caused tremendous losses to the fields, houses, life and property of the people in disaster areas. The greatest on-slaughts occurred in Sichuan, Shaanxi, Heilongjiang, Liaoning, Guangdong, Fujian, and Guangxi provinces. In addition, Hebei, Guizhou, western Hunan, and parts of Liaoning had a major drought for consecutive years, and Beijing and Tianjin suffered severe shortages of water for agriculture.

Following the calamities, the state allocated large sums of money to help people in major disaster areas. Under the leadership of the party and people's government at all levels, and with support from people everywhere throughout the country, people in disaster areas strove to intensify field care, actively develop economic diversification, triumph over the various hardships that the calamities had occasioned, and revive production rapidly, achieving outstanding successes in their efforts.

For the country as a whole, thanks to the implementation everywhere of correct policies during 1981 and the further building and improvement of various forms of production responsibility systems, active launching of economic diversification, and arousal of enthusiasm for production of the broad masses of peasants,

agricultural production continued to score fine achievements. State Statistical Bureau published statistics show the following:

Maintenance of a definite speed of development of agricultural production. Calculated in terms of constant 1980 prices, gross output value of agriculture during 1981 reached 231.2 billion yuan, up 5.7 percent over 1980. This included a gross output value from farming of 148.9 billion yuan, up 5.4 percent from 1980; a gross output value of 9.47 billion yuan for forestry, up 4.6 percent from 1980; a gross output value for animal husbandry and the fishing industry of 39.74 billion yuan, up 6 percent from 1980; and a gross output value for sideline occupations of 33.12 billion yuan, up 6.9 percent from 1980 (including a gross output value of 27.46 billion yuan from production brigade and production team-operated industries, up 9.3 percent from 1980).

Grain production increased. As a result of the continued readjustment of the structure of agricultural production throughout the country in 1981, despite a year after year reduction in the area sown to grain, rises in yields per unit of area produced gross outputs even in major disaster years of 650.04 billion jin, 1.4 percent more than in 1980, and second only to 1979, the most exceptional bumper harvest year since the founding of the Republic. Grain output in Nei Monggol, Anhui, Hubei, Henan, Jilin, Yunnan, Shanxi, Ningxia, Jiangsu, Hebei, Jiangxi, Hunan, Fujian, Sichuan, and Xinjiang increased in varying degrees over 1980. As of 15 January 1982, national state grain procurement plans for 1981 had been overfulfilled.

Outputs of cash crops continued to rise. Gross output of cotton stood at 59,352,000 dan, up 9.6 percent from 1980. This included ginned cotton outputs of more than 10 million dan from Shandong and Jiangsu provinces. Gross output of oil-bearing crops reached 204.1 million dan, 32.7 percent more than in 1980. Sugarcane output reached 593.36 million dan, up 30.1 percent from 1980. Sugarbeet output reached 127,207,000 dan, up 0.9 percent from 1980. Output of jute and ambari hemp reached 25.2 million dan, 14.8 percent more than in 1980. Silkworm cocoon output reached 6.22 million dan, 4.5 percent less than in 1980. Tea output reached 6,852,000 dan, up 12.8 percent from 1980. Output of other cash crops such as vegetables, and fruits were higher than in 1980.

Livestock products maintained steady growth. Despite decline in the number of hogs in inventory and removal from inventory, gross output of pork, beef, and mutton reached 25.217 billion jin, up 4.6 percent from 1980. Milk output reached 2,581 billion jin, up 13.1 percent from 1980. Sheep wool and goat hair output reached 189,000 tons, 7.4 percent more than in 1980. Output of other livestock products such as poultry, eggs, hides, and bristles increased in varying degrees.

Commune and brigade enterprises continued to develop in the midst of readjustment and reorganization. Despite reduction in the number of commune members employed in entrepreneurial units, gross earnings from commune and brigade enterprises (rural components) reached more than 67 billion yuan, 12.5 percent more than in 1980.

Both rural commodity rates and commune member living standards rose rapidly. Accompanying all-around development of the farming industry, animal husbandry, commune and brigade enterprises, and rural economic diversification was a fairly substantial increase in state procurement of agricultural sideline products. In 1981, total volume of agricultural sideline product procurement reached 76.47 billion yuan, up 13 percent from 1980 (allowing for rises in prices paid for agricultural sideline products, the increase was 6.7 percent). At the same time, peasant living standards also rose appreciably. A State Statistical Bureau random sampling of income and expenditures of 18,529 peasant families in 568 counties in 28 provinces, municipalities, and autonomous regions showed an annual per capita income of 223 yuan (including agricultural and sideline occupation income and income derived from redistribution). This was 16.8 percent more than the 191 average per capita income of 1980. After advances during the 2 previous years, everywhere throughout the country still more wealthy households with high incomes derived from distributions from collectives and "households with more than 10,000 jin of grain and more than 1,000 yuan in savings" appeared. Particularly noteworthy was that during 1981, almost half of the country's counties that had formerly had fairly poor natural conditions and fairly backward levels of production became transformed.

Numerous reasons account for such astounding development of China's agriculture in 1981 even though it was a year of major natural disasters, but overall the following ones seem most salient:

The most fundamental one was the series of correct policies and programs for hastening development of agriculture that have been formulated since the Third Plenary Session of the 11th Party Central Committee. These have struck deeper roots in peoples minds, and have come to be more wholeheartedly supported by the broad masses of peasants. The initiative of 800 million peasants has become a tremendously impelling force for development of production and to guarantee the harvesting of a bumper crop in a year of major calamities.

Increased state material and financial support for agriculture, and strengthening of leadership of agriculture at all levels of government was also an important reason for agriculture's sustained development. Not only did the state intensify material support to agriculture, but also allocated more than 52 billion yuan from public funds during the period 1979-1981 to increase prices the state paid for agricultural sideline products and to reduce or exempt some needy areas from payment of agricultural taxes. In 1981, the state again raised procurement prices paid for soybeans, tobacco, and vegetables. Furthermore, the larger number of farm products that the state purchased everywhere at negotiated prices and premium prices meant a further rise of 5.9 percent over 1980 in overall agricultural sideline procurement price indices for the country as a whole. These actions powerfully aroused peasant enthusiasm for development of production, and brought huge economic benefits to the peasants. In addition, agricultural loans increased year by year. During 1981, the Agricultural Bank and credit cooperatives throughout the country issued loans totaling 30 billion yuan to rural commune basic accounting units, to commune and brigade enterprises, and to individual commune members. This was 12 percent more than in 1980, making 1981 the all-time high year for amounts of money loaned.

Establishment and perfection of various effective forms of production responsibility systems, and active launching of economic diversification programs spurred peasant enthusiasm for production, and increased the inherent power of agricultural production to develop. As a result the administration and management of agriculture steadily strengthened and improved, very greatly improving the economic effectiveness of agricultural production, and giving powerful impetus to the in-depth and in-breadth development of economically diversified rural production. This was a direct reason for development of agricultural production and increase in peasant income.

In addition, in the more than 30 years since the founding of the People's Republic, more than 100 billion yuan of state funds or funds pooled by communes and brigades themselves have been invested in water conservancy, and large workforces have built farmland water conservancy projects. These projects showed their tremendous power during 1981 in withstanding drought, preventing floods, and draining away waterlogging. This, plus results achieved during the past more than 30 years from agricultural science and technology and the capital construction of agriculture, as well as the role of China's traditional intensive farming technology in raising yields per unit of area and output were yet other major reasons for the fine agricultural harvest.

(Cao Mengzha [2580 1322 8546])

Rural Development of Economic Diversification For the Past Year

With the gradual readjustment of rural economic policies in the wake of the Third Plenary Session of the 11th Party Central Committee, and the steady rise in agricultural productivity, rural economic diversification saw further rapid development throughout the country during 1981, demonstrated mostly in the following ways:

1. Further readjustment of the rural economic structure. In the overall structure of the agricultural economy, forestry, plus animal husbandry and the fishing industry, each increased 1 percent and 1.6 percent respectively in the gross output value of agriculture. Within the farming industry, output value of cash crops showed a substantial proportional increase as compared with growth during 1980, while output value of grain showed a proportional decline as compared with growth during 1980. In Anhui Province, which had an all-around bumper agricultural harvest, output value of economic diversification as a percentage of gross agricultural output value rose from 49.7 percent in 1980 to 52 percent in 1981. In Zhejiang Province, which used uncultivated land for energetic development of cash crops, output value from economic diversification amounts to 61 percent of gross agricultural output value.

2. Impetus to development of grain production. Rapid increase in earnings from economic diversification provided large sums of funds for the capital construction of agriculture, thereby improving production conditions and raising levels of productivity. In 1981, the national area sown to grain was 34,149,000 mu less than in 1980, and nearly 100 million mu less than in 1978; nevertheless, as a result of increased investment and increases in grain yields per unit of area. Total national grain output remained at 650.04 billion jin, or close to the level of the particularly bumper harvest year of 1979.

3. New changes in the makeup of the rural workforce. After universal institution of agricultural production responsibility systems, a large surplus workforce came into being as a result of the rapid rise in labor productivity rates. For the past several years, about one-third of the country's surplus workforce has turned from field production to development of economic diversification. In Yantai Prefecture in Shandong Province, for instance, the workforce engaged in economic diversification rose from 33 percent around 1978 to 55 percent in 1981.

4. Steady increase in the amount of agricultural sideline products provided the country. In 1981, state procurement of agricultural sideline products throughout the country amounted to 76.47 billion yuan, a 13 percent increase over 1980 (after allowing for the rise in prices paid for agricultural sideline products, the increase was 6.7 percent). Volume of procurement of major agricultural sideline products increased over 1980. For example, grain in storage amounted to 99.5 billion jin, up 5.2 percent from 1980. Edible oil in storage increased by 43.5 percent; cotton by 10.0 percent, flue-cured tobacco by 80.2 percent, and jute and ambari hemp by 12.4 percent. Quantities of 12 products purchased by the supply and marketing cooperative system in 1981 including cotton, jute and ambari hemp, ramie, flue-cured tobacco, famous brands of sun-dried tobacco, tea, wool, sheepskins, goat hides, citrus fruit, black tree fungus, and lily buds exceeded all-time high records. In addition, quantities of agricultural sideline products supplied by commune and brigade enterprises to cities and rural areas throughout the country and for export also increased substantially over 1980. Increase in quantities of marketable rural goods gave powerful impetus to development of the national economy, and guaranteed both the needs of the marketplace and of people's daily lives.

5. Marked rise in both collective and individual commune member income, with rapid improvement in standards of living. Random sampling by the State Statistical Bureau showed per capita income for the country as a whole to have averaged 223 yuan in 1981 (including income derived from farming, sideline occupations and from redistributions). This was 16.8 percent more than the 191 yuan of 1980. This included an 84.52 yuan average net income from family sideline occupations, a 1.36-fold increase over the 35.79 yuan of 1978. As income increased, commune member standards of living steadily rose. Following a 900 million square meter increase in new housing built since the Third Plenary Session of the 11th Party Central Committee, in 1981 another 600 million square meters was built, for an increase of about 20 percent over 1980. Rural savings deposits for the country as a whole stood at more than 21.17 billion yuan, or an average of 25.85 yuan per capita. In quite a few places, commune member income rose substantially during 1981.

Development of economic diversification during 1981 was characterized as follows:

1. Every jurisdiction set up centralized organizations to direct economic diversification, intensified market forecasting, guided development of economic diversification, and took into account the interests of all parties in solving and mediating conflicts between supply and marketing. In addition, leading organizations at all levels cooperated with departments concerned in

strengthening support for economic diversification with policies, funds, material resources, bank loans, and training in scientific techniques to give impetus to development of economic diversification.

2. All jurisdictions began surveys of agricultural resources and did agricultural zoning work. In 1981, 70 percent of the country's counties launched surveys of agricultural resources and did zoning work. Thus, they laid a foundation for making the most of advantages, for highlighting strengths and downplaying weaknesses, and for suiting general methods to specific situations in development of economic diversification.

3. A beginning was made in giving serious attention to and correct handling of the dialectic relationship between taking grain production firmly in hand while actively developing economic diversification. The change from sole attention to grain production to simultaneously coming to grips with economic diversification was more marked than during the previous 2 years. Particularly in some places that had been fairly backward in production heretofore, such as Huaiyin Prefecture in Jiangsu Province, attention was devoted both to grain production and to economic diversification. In 1981, this prefecture's grain output increased by more than 800 million jin, while cash crops also increased tremendously. As a result, average per capita income throughout the prefecture, which had annually risen by only 0.76 yuan during the period 1969-1978, rose by 23 yuan in 1981 alone to 86 yuan. In Sihong and Kuchi, the two counties where greatest changes occurred, commune member average income distributions from collectives doubled by 60 yuan and 70 yuan respectively over 1980.

4. Attention to making the most of both collective and individual commune member enthusiasm. In Jiangsu Province, for example, all jurisdictions actively developed collective fish rearing while at the same time parcelling out, under centralized production team control, scattered water surfaces to individual commune members as though they were private plots of land. These water surfaces were turned over to commune member families for long-term operation, the families selling products from them as they liked. This promoted development of the fish rearing industry throughout the province. In 1981, 176,000 rural households were rearing fish on a 90,000 mu area from which fish output was about 4,200 tons, accounting for a considerable percentage of the province's freshwater fish rearing.

5. Various forms of production responsibility systems were instituted and constantly improved as the characteristics of different ventures required. This brought into being specialized teams, units, households, and individuals among whom the division of labor was linked to output. Numerous places also set up various forms of joint partnership organizations, such as partnerships among individuals, partnerships among collectives and individuals, partnerships among collectives, partnerships between the state and collectives, and partnerships between local and outside areas. This set the stage for blazing new trails in specialized rural commodity production.

(Meng Min [1322 3046])

Survey of the Revival and Development of Agricultural Institutions of Higher Learning

At one time China had 33 agricultural institutions of higher learning, but during the 10 years of turmoil 78 percent of them were forced to move, disband, merge, or split up, and serious destruction resulted. Following the smashing of the "gang of four," and particularly following the Third Plenary Session of the 11th Party Central Committee, order was brought out of chaos and a program of readjustment, reorganization, restructuring and upgrading carried out, and schools experienced preliminary revival and development. Now, an overwhelming majority of institutions that had moved have returned to their former addresses. Simultaneous with revival of old schools has been State Council approval since 1978 of the additional establishment of the new Beijing, Shanghai, and Laiyang agricultural colleges, the Mianyang, Xichang, Yuxi, and Zhanjiang agricultural training schools, the Sichuan and Qinghai veterinary medical colleges, the Xizang Agriculture and Animal Husbandry College, the Zhelinu Animal Husbandry College, and the Zhengzhou Animal Husbandry and Veterinary Medicine Training School. Today there are 45 agricultural institutions of higher learning in the country (not including state farm and land reclamation or aquatic products institutions). They include 36 institutions offering undergraduate courses, and nine offering specialized training. Broken down by discipline, 39 are in agriculture, five in veterinary medicine, and one in silkworm mulberry culture. A total of 391 specialized courses in 53 subjects are offered including agriculture, fruit trees, vegetables, plant protection, agricultural soil chemistry, tea, silkworm mulberry, animal husbandry, veterinary medicine, grasslands, management of the agricultural economy, farm mechanization, farmland water conservancy, and forestry. Enrollments in regular college undergraduate courses during 1981 numbered 67,455, and 17,414 undergraduates graduated; 303 graduate students graduated. Staff members and workers at schools number 47,782 including 14,902 professors.

In 1979 the state revived and approved as key national institutions of higher learning the following schools: Beijing Agricultural University, and Nanjing, South China, Central China, Southwestern China, Northwestern China, and Shenyang agricultural colleges. A dual leadership management system in which the Ministry of Agriculture is paramount, but in which provinces and municipalities concerned play a part, was instituted for these schools. In addition Shanxi Agricultural University and Jiangxi Communist Labor University (i.e., Jiangxi Agricultural University) were approved as key national institutions of higher learning under provincial leadership.

In 1980, the Ministry of Agriculture convened a meeting of institution directors and CPC Committee secretaries from the seven key national agricultural institutions, which decided the orientation, tasks, size, special organizations and research structure of the seven key institutions. In addition, it worked out overall plans and annual plans for the key institutions' school dormitories, apparatus and equipment, books and reference materials, and farms attached to schools. They called for the formulation of overall plans and annual plans, listing of priorities, and planned carrying out of construction to create necessary material conditions to produce skilled people, results, and experiences.

In order to revive and stabilize teaching procedures, and assure teaching quality, since 1980 the Ministry of Agriculture has examined, revised and promulgated 11 specialized teaching plans for agricultural institutions of higher learning teaching of agriculture, growing of fruit trees, growing of vegetables, plant protection, agricultural soil chemistry, tea growing, silkworm mulberry culture, animal husbandry, veterinary medicine, grasslands, and agricultural economic management. At the same time, the conference examined, approved, and promulgated specialized teaching plans for agricultural machinery courses in agricultural institutions of higher learning. It organized professors from agricultural institutions of higher learning to write 12 specialized sets of probationary training materials on more than 170 topics, of which 115 have been published. It imported all kinds of foreign teaching materials and more than 500 teaching reference books. It issued seven special courses on agriculture, fruit trees, plant protection, tea growing, silkworm mulberry culture, animal husbandry, and veterinary medicine, plus nine basic courses on inorganic chemistry, organic chemistry, analytical chemistry, physical chemistry, physics, plant and animal chemistry, plant physiology and physical chemistry, agricultural soil analysis, and agricultural microbiology, and a standard draft for basic course laboratory apparatus and equipment.

In order to foster and improve professors' professional skills, the Ministry of Agriculture commissioned specialists and professors at agricultural institutions of higher learning to run basic courses and basic specialized courses, as well as to run 60 nationwide teach training courses in elective subjects for the training of 2,618 middle age and young professors. Simultaneously, all schools used various channels and methods to train and upgrade middle age and young teachers as different teaching needs required. The Ministry of Agriculture organized 936 professors at agricultural schools to go to key universities, institutions subordinate to the Ministry of Agriculture, and institutions subordinate to provinces having requisite conditions to take relevant advanced courses and engage in scientific research. The State Agricultural Commission organized institutions of higher learning in the agricultural, state farm and land reclamation, water conservancy, forestry, and meteorology systems to study, discuss, and put forward ideas for improvement of the content of course work and teaching methods in eight courses including higher mathematics, organic chemistry, physics, agricultural ecology, genetics, insect physiology and ecology, agricultural economics, and physical education.

Following State Council approval in 1981, eight institutions of higher agricultural learning and agricultural research organizations were permitted to grant doctorates in 13 fields at 25 centers. This included 13 fields of learning at seven agricultural institutions of higher learning at 22 locations; and three fields of learning in one agricultural research institution at three locations. 1981 was the first year in which China enrolled graduate students. Twenty-three agricultural institutions of higher learning enrolled 495 students throughout the country for study toward masters degrees. This included 304 students enrolled in seven key agricultural institutions of higher learning under the jurisdiction of the Ministry of Agriculture, and 191 students enrolled in agricultural institutions of higher learning under the jurisdiction of individual provinces, municipalities, and autonomous regions. The Ministry of Education mandated Beijing Agricultural University and the Nanjing, South China,

and Northwest China Agricultural Colleges responsible for selecting and training 89 graduate students preparatory to going abroad.

In order to initiate international scientific and cultural exchanges, 10 Chinese agricultural schools signed inter-school relationship agreements with 11 agricultural schools in four countries. They began a mutual dispatch of experts and professors and an exchange of data. They also mutually dispatched students for advanced studies, and engaged in cooperative scientific research activities. They invited a total of 31 foreign experts to come to China to lecture and operated 29 lecture and study courses. More than 2,000 professors from agricultural schools attended classes and discussions. Since 1980, the Ministry of Agriculture Education Bureau has selected and sent abroad 146 students for study. They have gone to 21 different universities in 17 countries for advanced study of 12 specialties and related disciplines for a period of 2 years or more. Twenty-eight of them have already completed their courses and returned to China.

Since 1980, five institutes in seven schools under the jurisdiction of the Ministry of Agriculture have received grants from the United Nations Food and Agriculture Organization's Plan Development Office for the "strengthening of agricultural education," and they have already selected and dispatched 14 people to go abroad for advanced studies plus four observation teams to go abroad for specialized observation. They have also bought some apparatus and equipment. In addition, the United Nations' Asia and Pacific Region requested that China train cadres from countries in the Asia and Pacific region in silkworm mulberry techniques, and the South China Agricultural Institute has been mandated to set up an "Asia and Pacific Region Silkworm Mulberry Training Center."

As of the end of 1981, China had 227 secondary farming and animal husbandry schools, 27 of which had been designated key national schools. Of the total number, 209 had a farming curriculum, 14 were animal husbandry and veterinary medicine schools, one was a silkworm school, and two were tea schools. A total of 68,305 students were attending these schools in 1981, and 41,881 were graduated in 1981. (In 1980, 20,227 were graduated). Professors, staff members and workers (at main schools) numbered 23,191, of whom 10,445 were professors.

China's secondary agricultural (and animal husbandry) schools offer courses in 38 fields of study including the 15 fields of farming, fruit tree growing, vegetable growing, forestry, animal husbandry and veterinary medicine, plant protection, farm economic management, farm machinery, soil fertility, agricultural meteorology, aquatic products, financial accounting, water conservancy, tea, and silkworm mulberry.

In an effort to stabilize and revive teaching procedures and strive to upgrade teaching quality, the Ministry of Agriculture began in 1979 to examine, approve, and issue teaching plans for secondary farming (and animal husbandry) secondary schools throughout the country in eight specialties including fruit trees, animal husbandry, veterinary medicine, tea, and silkworm mulberry corresponding to a 71 course teaching outline. In 1977, it began to organize the writing of teaching materials for 92 courses (in 16 specialties) and of 43 laboratory training manuals for secondary agricultural schools.

By way of upgrading the level of leading cadres in secondary agricultural schools, the Ministry of Agriculture has run three leading cadre training courses, training a total of 132 leading cadres, who have systematically studied basic education and psychology, and they have organized the exchange of major experiences relating to agricultural education work. In the training of teaching staff, the Ministry of Agriculture has mandated agricultural institutions of higher learning concerned and farming (and animal husbandry) secondary schools to run 53 teacher training courses nationwide for the training of a total of 2,037 teachers. In addition, it has organized foreign language study classes to upgrade teachers' foreign language skills, setting the state for promotion of exchanges with foreign countries.

(Ministry of Agriculture Education Bureau)

Survey of Technical Agricultural Training

In accordance with the principle of level by level training of agricultural leadership cadres and training of specialized technical personnel geared to the needs of their jobs, widespread technical training for agriculture has been carried out from top to bottom and from single sites to broad areas during the past 3 years. Today, it is being carried out in every province, municipality, and autonomous region in the country, in between 70 and 80 percent of prefectures and municipalities, and in 50 to 60 percent of counties and banners. Fifty-two training bases of all sorts have been established at the provincial level, and most prefectures and municipalities, plus more than one-fourth of all counties have various kinds of training bases. In addition to short-term training, Jiangsu, Shandong, and Zhejiang provinces have charged agricultural colleges and secondary schools with the operation of specialized 2 or 3 year training courses for cadres. Statistics show the training of 110,000 leading managerial cadres for agriculture at all levels during the past 3 years, of 350,000 specialized technical personnel, and of 19 million commune and brigade cadres and peasant technical personnel.

During 1979 and 1980, the Ministry of Agriculture commissioned the nine agricultural institutions of higher learning to establish the following training courses: Ministry of Agriculture cadre training course, Beijing Agricultural University course; Zhejiang Agricultural University course, Shenyang Agricultural College course, Northwest Agricultural College course, Southwest Agricultural College course, Central China Agricultural College course, South China Agricultural College course, Xinjiang Bayi Agricultural College course, and Nei Monggol Agriculture and Animal Husbandry College course. An animal husbandry leading cadre training course was also separately established at the Northwest Agricultural College. These nine courses were responsible for the training of leading agricultural cadres above the county level. Each course runs for 4½ months and course work covers 10 required subjects in the four major areas of agronomy, agricultural economics, animal husbandry, and agricultural machinery, plus some elective subjects and a report on a special topic. Training goals are: to provide students with a preliminary appreciation and understanding of agricultural science and technology, to teach them basic theories and fundamental knowledge about the basic principles of agricultural economic management, to improve their specialized skills and level of leadership and management, and to strengthen their consciousness of the need to do

things in accordance with natural laws and economic laws so as to meet needs in developing agricultural modernization. These courses also set the stage for continued future study so that students gradually become experts versed in their own vocations. As of the end of 1981, there had been five runnings of these agricultural cadre training courses, and a total of 3,571 cadres trained. This included 162 cadres from provincial level agricultural departments (including 79 provincial department and bureau level cadres, 34 cadres in charge at provincial agricultural institutes and institutions of higher education, and 49 department level cadres). It also included 474 prefecture and municipal cadres (including 24 Prefecture CPC Committee deputy secretaries, 52 deputy assistant directors, 173 agricultural committee directors and deputy directors, and 225 agricultural and animal husbandry bureau directors and deputy directors). It additionally included 2,527 county level cadres (including 269 County CPC Committee secretaries, 265 county heads, 1,379 deputy secretaries, 567 deputy county heads, and 47 standing committee members.) It included 70 department level cadres directly subordinate to the Ministry of Agriculture, plus the training of 338 people for the Ministry of Finance, the Overseas Chinese Affairs Office of the State Council, the Logistics Department of the PLA, the Communist Youth League Central Committee, the All-China Women's Federation, and Beijing Municipality. Based on the foregoing figures, agricultural cadre training courses have trained an average of 5.4 people for the agricultural sectors of every province, municipality, and autonomous region, 2.3 people for every prefecture and municipality, and more than one person for each county.

The initiation of national training in agricultural techniques, and particularly the training of leading agricultural cadres at all levels, has achieved marked results in implementation of the CPC Central Committee's various agricultural programs and policies, in giving impetus to scientific farming, and to relying on policies and science for development of agricultural production. Practice during the past 3 years has demonstrated that initiation of agricultural technical training has been an effective measure for genuinely vitalizing agriculture, and for bringing about the modernization of agriculture.

By way of giving impetus to development of technical training in agriculture, the State Agricultural Committee plus the Ministry of Agriculture, Ministry of Forestry, Ministry of State Farms and Land Reclamation, the Ministry of Water Conservancy, the Aquatic Products Bureau, and the Central Meteorology Bureau jointly convened the national agricultural system's second conference on the exchange of experiences in cadre training work. The summary and exchange of experiences further clarified policies, tasks and requirements in carrying out cadre training, staff member and employee education, and peasant education. In addition, at the end of 1981, the Ministry of Agriculture used the "Preliminary Plan for Cadre Training" to formulate the "Sixth Five-Year Plan agricultural technical training and staff member and employee education," which called for completion of the first rotational training during 1985, and posed new requirements for proceeding from consolidation and upgrading of efforts to develop in the direction of regularization and systematization.

(Wang Yongman [3769 3057 3341])

Forestry

Survey of Forestry Development in 1981

During 1981, the building of forestry in China moved ahead steadily. As a result of the implementation at the beginning of the year of the State Council's "Urgent Notice on Resolutely Halting the Reckless Cutting and Denudation of Forests," a turn for the better occurred in the serious destruction of forest resources. On 8 March, the CPC Central Committee and the State Council issued "Decisions on Various Problems on the Protection of Forests and Development of Forestry," (hereinafter referred to simply as "Decisions"), which clarified the direction and formulated programs, policies, and actions to be taken to solve a number of longstanding and fundamental problems in the building of China's forestry. As a result, leading party and government cadres from the Central to the regional level devoted serious attention to forestry work, and all nationalities and people in all walks of life throughout the country became filled with enthusiasm about being concerned about the supporting forestry work. They carried into effect the "Decisions" of the central authorities on forestry, which have produced some initial results. Substantial progress was made in "three fixes" work that fix rights to mountains and forests, fix the assignment of privately retained mountains, and fix forestry production responsibility systems. With the exception of Xizang and Shanghai, which are in the process of doing preparatory work, the country's other 27 provinces, municipalities, and autonomous regions are engaged in this task. As of the end of 1981, 1,695 counties (or municipalities), or 75 percent of all counties (or municipalities) in the country had begun the "three fixes" in forestry, 1,053 of them being in full swing. Sichuan Province, where progress has been fairly rapid, has completed 50 percent of the task. Incomplete statistics from 12 provinces and autonomous regions including Sichuan show 47.92 million mu of privately-retained mountains as having been designated for commune member use. Numerous places have also established and perfected various forms of forestry responsibility systems, with such systems existing in more than 40 percent of Gansu, Beijing, Sichuan, Hebei, and Jiangxi. Circumstances everywhere have demonstrated that where there has been good performance of the "three fixes," the enthusiasm of the broad masses of cadres and people for afforestation has been greatly aroused, care of mountain forests has been strengthened, disputes over forest rights have been settled, and unity, stability, and development of commune and brigade forest farms has been advanced. After many counties and communes carried out the "three fixes" in forestry, the reckless cutting and denudation that had been so difficult to control for many years came to a virtual halt. In addition, numerous counties (or municipalities) set up people's commune mass organizations for the protection of forests and maintenance of order. They set up local villager forest protection, which has produced fine results.

Definite results have also been achieved in the centralized management of timber. Eighteen provinces and autonomous regions including Anhui, Guizhou, Guangdong, Hunan, and Xinjiang decided that timber should be centrally managed by the Ministry of Forestry. The Ministry of Forestry is to manage timber not only in production areas, but in marketing areas as well. Statistics from 14 provinces and autonomous regions show that as of the end of 1981, more than 450 timber producing counties had begun centralized management of timber, and

many provinces, prefectures, and counties were doing a good job of this. Thus, experience has been provided to the whole country for carrying out centralized management of timber.

Definite progress has been made in the task of readjusting forestry. Forest area construction has gradually reversed the erroneous methods of many years standing of concentrating mostly on log production, and a beginning has been made toward changing the situation of emphasizing felling while slighting afforestation that has resulted in a serious imbalance between harvesting and planting of trees. Gradually, forestry work has been returned to the track of building forests as the foundation and, as a result of a program of joint state, collective, and individual running of forestry, a beginning has been made in correcting past sole concern with quantity without concern for quality in afforestation work. Much more afforestation has been done, and the quality of this work has improved too. Nurture and culling of trees from middle age and young forests has also begun to attract serious attention; new breakthroughs have taken place in multiple uses of forest products in forest areas, and a great deal of experience has been accumulated.

Substantial development has taken place in forestry research and education. All jurisdictions are operating forestry staff member and worker training courses to advance the building of forestry.

In 1981, a 5.10 million mu area of the country was being used for the growing of seedlings and 61.65 million mu were afforested. This included the state farm afforestation of 8,527,000 mu. In 11 provinces and autonomous regions, building of "three norths" shelter forests was done on more than 13.7 million mu. This was 105.8 percent fulfillment of plan. Enthusiasm of the broad masses of people throughout the country for afforestation ran high, and numerous advanced collectives and individuals appeared. At the National Congress of Young Greening Shock Workers (and Shock Brigades) convened in September, 100 shock brigades for the greening of the motherland and 50 shock troops for the greening of the motherland received awards. Statistics from 27 provinces, municipalities, and autonomous regions including Shanxi, Jiangsu, Shandong, and Hunan showed a total of 125 million youths as having participated in tree planting for afforestation. They planted a total of 1.6 billion trees in the afforestation of more than 4.8 million mu, and operated 750,000 mu of youth seedling nurseries and red scarf seedling nurseries to make a contribution to the greening of the motherland and the beautification of the environment. Timber production totaled more than 49.42 million cubic meters, and output of industry forestry products such as plywood, fiberboard, rosin, pine resin, turpentine, and tannin extract overfulfilled annual plan.

All provinces, municipalities and autonomous regions began the zoning of natural preserve areas, and 85 natural preserves have been established throughout the country, 12 of them having been newly established in 1981. The national survey of forestry diseases and insect pests begun in 1979 continued with field surveys. The survey has preliminarily clarified the main kinds of diseases and insect pests, their distribution, and the damage they do. In order to provide data for prevention, control, and quarantine, prevention and control of diseases and insect pests was carried out over a more than 38.4 million mu area in 1981, chemical prevention land control having been used on more than 20 million mu,

and biological prevention and control having been applied to more than 9 million mu.

The Fourth Session of the National People's Congress of 13 December passed "Resolutions on the Initiation of a National Voluntary Tree Planting Campaign," and "Resolutions." Wherever conditions permit, every citizen of the People's Republic of China who are 11 years of age or older, the old, infirm, ill, and crippled excluded, is to adapt general methods to local situations to plant from three to five trees per person annually, or to do a corresponding amount of work in the raising of seedlings, in caring for trees, or doing other afforestation work. Under impetus of this resolution, a great upsurge has taken place among urban and rural people in the whole country to hasten the greening of the motherland, and in 1982 the building of forestry in China should score even greater accomplishments.

(Zhang Guanli [1728 6034 4409])

The Animal Husbandry Industry

Survey of the Animal Husbandry Industry in 1981

(1) All categories of livestock products showed substantial increase. Marked increase in outputs of all kinds of livestock products while the number of head of livestock remained stable characterized the steady development of China's animal husbandry industry. In 1981, the total number of hogs, sheep and goats, and large livestock animals in inventory at the end of the year remained constant at the 580 million figure of the previous year, while gross output of pork, beef, mutton, and goat for the year as a whole went from 10,624,000 tons in 1979 to 12,054,000 tons in 1980, and continued to increase to 12,609,000 tons in 1981 in a 4.6 percent increase over 1980. This included 118.84 million tons of pork, 545,000 tons or 4.8 percent increase; 476,000 tons of mutton and goat, a 6.3 percent increase; and 249,000 tons of beef, a 7.4 percent decrease. Inasmuch as pork accounted for 94.3 percent of total meat output -- output of mutton and goat being second at 3.7 percent, and beef output being last at only 2 percent -- supply of meat at the present time still relies on the hog raising industry.

China's foundation for a dairy cattle industry is fairly weak. The numbers of milk cows and milk goats are fairly small, and the industry is just now in its infancy. In 1981, output of cow's and goat's milk was 1.55 million-odd tons, 13.3 percent more than in 1980. This included an output of 1,291,000 tons of cow's milk, and 258,000 tons of goat's milk. Dairy cows and milk goats have both come to receive the serious attention of all levels of the animal husbandry sector and of farmers and herdsmen. The area over which they are raised has increased; the numbers of households raising them have increased; dairy herds have increased over the years; and milk output has gradually risen.

Wool and goat hair are staple livestock commodities produced in China in addition to meat. During 1981, the number of sheep in inventory in China showed a net 2.7 percent increase, while production of 189,000 tons of wool represented a 7.6 percent increase over 1980. Increase in wool output made an active contribution to the rapid development of the country's wool textile industry and the steady expansion of sources of raw materials.

In recent years, apiculture has developed very rapidly, with the number of bee colonies and output of honey continuing to increase steadily. In 1981, 6,335,000 hives of bees were raised and produced 110,000 tons of honey. This was a 7.7 and 14.6 percent increase respectively over 1980. In 1981 alone, the state purchased more than 80,000 tons of honey, more than 50 percent more than during the several years preceding the Third Plenary Session of the 11th Party Central Committee.

In addition, marked growth also took place in both the output and the commodity rate of fresh eggs, which are required to improve the people's standard of living, and in traditional livestock products such as goat hides and rabbit fur for export. As of now, China continues to hold first place in international trade in the export of hog bristles, hog casings, down, rabbit fur, rabbit meat, and honey.

(2) Commune member family livestock raising developed very greatly, and a group of specialized households and key households devoted to the raising of livestock sprang up. In 1981, 94.1 percent of all hogs in inventory in the whole country had been raised by commune member families, versus 90.5 percent in 1980, and only 80 percent in 1978. Sheep and goats raised by commune members accounted for 54 percent of sheep and goats in inventory in the whole country during 1981 versus 46 percent in 1980, and only 33 percent in 1978! Commune member raising of cattle developed most rapidly and changed greatest. Up until 1978, an overwhelming majority of farming areas did not permit commune members to raise cattle, and in pastoral regions very few cattle were commune member owned. At that time, less than 5 percent of all the cattle in inventory in the country had been raised by commune members. By 1980, the number had grown to 8.66 million head, or 12 percent of the total, and by 1981, it had risen to 21,370,000 head, or 29.1 percent.

With the increase everywhere of commune member family raising of livestock, those peasants having requisite conditions and expertise stopped raising livestock as a family sideline occupation to specialize in the raising of the six domestic livestock animals. They changed from extensive to intensive operations, from raising livestock as a sideline occupation to making it a primary occupation, and from production for self-sufficiency to commodity production. They began to march along the road of specialization, socialization, and commodity production. Incomplete statistics for Heilongjiang, Liaoning, and Gansu provinces show 97,162 households specializing in the raising of livestock at the present time, and 383,608 households functioning as key households to back up the specialized households. Statistics from nearly 100,000 households specializing in the raising of livestock show each specialized household as raising an average of seven head of oxen, two head of dairy cows, 30 head of sheep or goats, 11 hogs, 80 chickens, 40 rabbits, or 30 geese. The labor productivity rate has increased by from several to more than 10 times in comparison with ordinary households raising livestock as a sideline occupation.

(3) Promotion of animal husbandry production responsibility systems has consolidated both the state-owned and collective economies. After the institution of various forms of responsibility systems in the raising of livestock

and poultry by suiting general methods to specific circumstances, cadres and the masses were of one mind, paid attention to economic accounting, watched economic effectiveness, and increased production efficiency. As a result, much livestock and poultry raising became regularized; output rose; quality improved; costs fell, and losses turned into profits. Individuals received more, collectives earned more, and more money flowed into public funds. The collective animal husbandry economy, state-owned breeding farms, and livestock farms all gained strength and developed. Since 1980, the country's gross output value from livestock breeding farms has doubled, and losses have fallen 60 percent. Today nearly half the livestock breeding farms in the country have turned losses into profits. In Beijing, each adult cow produces 6,200 jin of milk annually. The country also has some individual fine breed cows that produce nearly 10,000 kilograms of milk from each pregnancy, and that produce almost 100,000 kilograms of milk in the course of their lives. Mostly these breeds are found on state-owned dairy farms in large and medium size cities such as Beijing, Shanghai, and Nanjing, and all these farms produce profits every year.

More than 10 million hogs are collectively raised throughout the country. As a result of the promotion of animal husbandry production responsibility systems, 26,405 collective hog farms in suburban Shanghai have now been consolidated, and in 1981, 75 percent of them showed a cash profit. In Beijing, 75.5 percent of collective livestock and poultry farms have set up specialized contracting and production responsibility systems in which calculation of compensation is linked to output, those honoring contracts on time numbering 76.9 percent. In 1981, collective farms sold the state 10.83 million jin of fresh eggs, 11.1 percent more than in 1980. State farms sold the state 20.95 million jin, 44.9 percent more than in 1980. State farms and collective farms had combined sales of 31.78 million jin, which was 8 million jin more than the 23.77 million jin that commune members sold the state to become a major source of fresh eggs to solve the fresh egg consumption needs of urban residents.

(Zhang Xingjie [6774 2502 2638])

Commune and Brigade Enterprises

Survey of Commune and Brigade Enterprise Development in 1981

Commune and brigade enterprises are an important integral part of the rural collective economy. On 4 May 1981, the State Council promulgated, "various Decisions on Commune and Brigade Enterprises Conduct of a National Economic Readjustment Program," (hereinafter termed "the six articles"), which clearly affirmed and completely spelled out the position and role of commune and brigade enterprises, provided basic requirements for the readjustment and reorganization of commune and brigade enterprises, and pointed out a program and a direction for development of commune and brigade enterprises. As a result of readjustment and reorganization, in 1981 both the number of commune and brigade enterprises and the number of personnel employed in them fell everywhere, while major indices such as gross earnings of commune and brigade enterprises and gross output value of commune and brigade industries increased. At the end of 1981, there were 1,337,500 commune and brigade enterprises in the whole country, 87,000 fewer than in 1980, and a total of 30 million people

were employed in them, 300,000 fewer than in 1980. The decrease was great in production brigade enterprises whose numbers declined by 85,000 and whose personnel fell by more than 500,000. Commune-run enterprises declined by 20,000, and personnel increased by more than 200,000. In 1981, gross income from commune and brigade enterprises amounted to 68.7 billion yuan. This included the following: earnings of 1.68 billion from urban and town street enterprises, and a gross income from commune and brigade enterprises throughout the country (exclusive of earnings of city and town street enterprises), earnings amounting to 34 percent of total earnings of the three levels of commune production teams, production brigades, and communes. In 1981, gross income of commune and brigade enterprises increased 12 percent over 1980; gross output value of commune and brigade industries was 56.28 billion yuan, up 10.5 percent from 1980; and the labor productivity rate for all personnel was 2,257 yuan, up 13.6 percent from 1980. In 1981, commune and brigade enterprises in the whole country had profits of 11.28 billion yuan, up 4.7 percent from 1980. However, taxes and profits turned over to the state increased, total tax funds turned over to the state for the year amounting to 3.427 billion yuan, 33.7 percent more than in 1980, or roughly the equivalent of 90 percent of tax receipts from agriculture. Changes also took place in the structure of commune and brigade enterprises, with the percentage of commune and brigade industries being greatest. Gross income for commune and brigade enterprises included 76 percent from industrial enterprises, 8 percent from construction industries, 6 percent from farming and breeding enterprises, 4 percent from transportation and hauling enterprises, and 6 percent from business and the service trades. Gross output value of commune and brigade industries represented about 10 percent of the gross output value of all industry in the country, and has become a powerful helper to large industry. Development of commune and brigade enterprises has already been on a substantial scale. Commune and brigade enterprise fixed assets for the country as a whole have a value of more than 37 billion yuan. Major machines and equipment include 417,000 metal cutting machine tools, 120,000 pieces of forging equipment, 65,000 simple machine tools and simple forges, 298,000 bench drills and polishing machines, and 1,838 million specialized pieces of equipment of various kinds. Commune and brigade enterprises have a more than 120 million mu farming and breeding area. This includes a 12 million mu area sown to farm crops, an 80 million mu forest farm area, a more than 6.8 million mu tea grove area, a more than 8 million mu fruit orchard area, a more than 800,000 mu area for the growing of medicinal herbs, and a more than 7 million mu aquatic products breeding area. In other words, production team-run enterprises, enterprises jointly run by commune members, and individually run enterprises have all seen new development. In Yunnan Province, income from production team-run enterprises amounts to 27 percent of the gross income of all commune and production brigade enterprises in the whole province. In Nanhai County in Guangdong Province, commune, production brigade, and production team enterprises have developed together, and production team enterprises account for 24 percent of the gross earnings of the whole county's commune and brigade enterprises. In Fujian Province, there are more than 2,000 enterprises that have been jointly funded by individual commune members in common, the pooled funds amounting to almost 200 million yuan, which have provided jobs for more than 70,000 surplus members of the workforce. Survey statistics from six counties in Weinan Prefecture in Shaanxi Province show 3,098 production team-run enterprises, 135 enterprises

run by commune members in partnership, and 967 enterprises run by individual commune members for a total of 4,200 enterprises. Between 1976 and 1981, gross income for commune and brigade enterprises increased at an average 18 percent, while in 1981 the rate of increase was only 12 percent, meaning a slowdown in speed of development from that of the past several years. The reasons for this decline were as follows: some commune enterprises, notably production brigade enterprises turned operations over to production teams, and some decentralized them to individual households. After some commune and brigade enterprises instituted several fixes and several contracts, statistics for excess production and excess income were not included in income; in the course of readjustment, capital construction was curtailed. This shows that in the course of readjustment, commune and brigade enterprises advanced more solidly.

In accordance with "the sixteen articles," commune and brigade enterprise management departments at all levels and grassroots enterprises carried out a diligent readjustment of commune and brigade enterprises, reigned to their negative aspects and gave free reign to their positive aspects.

1. Readjustment of product orientation. In the course of readjustment, production of goods in oversupply was curtailed while production of goods in short supply was developed, and advantage taken of the situation wherein "small boats can turn around rapidly." Specialized production was promptly organized, and products readily salable to meet needs were increased. Production of consumer goods, energy, and processed raw materials was stepped up. Processing of agricultural sideline products, light industries and the textile industry, labor intensive industries, and food and beverage service occupations developed fairly rapidly. In 1981, commune and brigade enterprises increased output of the following major products: raw coal (13.2 percent), electric power generation (18.6 percent), lead and zinc ores (95 percent), troilite ore (25.7 percent), phosphate rock (16 percent), phosphate fertilizer (9.7 percent), chemical pesticides (5.7 percent), spare parts for farm implements (23.5 percent), cement (37 percent), crude salt (73 percent), machine-made paper and paperboard (26 percent), silk (32.7 percent), silk knitgoods (86.8 percent), arts and crafts articles (8 percent), and edible vegetable oil (15 percent). With readjustment of product orientation, product structure changed substantially. In Zhejiang Province during 1980 and 1981, more than 10,000 enterprises changed their production, with 79 percent of all commune and brigade industries producing products to eat, to wear, to use in daily life, or for the home. The ratio of light industry rose from 51 percent in 1979 to 64 percent in 1981. In Shandong Province, the ratio of light industry in commune and brigade industries rose from 45.2 percent in 1980 to 52.1 percent in 1981, while machine industries declined from 31.5 percent of the total in 1980 to 18.8 percent in 1981. Output of major goods for agriculture and for use in the people's daily lives increased substantially.

2. Organization gave impetus to partnerships and readjustment of the distribution of enterprises. Incomplete statistics from 14 provinces, municipalities, and autonomous regions show a total of 12,000 new joint enterprises of various kinds in 1981. Some places organized partnerships of industries in similar lines, and set up various kinds of specialized companies. Specialized companies established above the county level throughout the country numbered more than 1,000. Development of jointly operated enterprises and partnerships of industries in similar lines gradually brought about an appropriate centralization

of overly decentralized commune and brigade enterprises, and played an active role in bringing about a rational distribution of enterprises, the building of small cities and towns, technical transformation, and an upgrading of management levels.

3. Attention to development of planning, curtailment of capital construction, and overcoming ill-advised expansion. In 1981, 14 provinces, municipalities, and autonomous regions prepared Sixth Five-year plans, and the other provinces, municipalities, and autonomous regions, as well as prefectures, counties, and communes also grappled with this task. Planning reduced blind action and promoted planned development of commune and brigade enterprises based on local resources and social needs. At the same time, in order to control ill-advised expansion, investment in capital construction was also curtailed, and the system of examination and approval strictly enforced. In 1981, investment in capital construction was used principally for "tapping potential, renovation, and restructuring," and for jointly-run projects. About 35 percent of the absolute figure increase for commune and brigade industries in Zhejiang Province in 1981 was to tap potential in existing enterprises. During the first half of 1981, 190 million yuan was invested in capital construction in Jiangsu Province (including investment for tapping potential, renovation, and restructuring), and this was only 27 percent of investment in capital construction for all of 1980.

4. Organization and development of socialist cooperation for mutual advancement and common development. One example of such cooperation was the shipment to Zaozhuang City in Shandong from Qianzhou Commune in Wuxi County, Jiangsu Province of a complete chemical fiber printing and dyeing plant (the entire plant having been produced in a commune and brigade plant and valued at 500,000 yuan) to help Zaozhuang City set up a small chemical fiber printing and dyeing plant. Zhaozhuang paid for the equipment with coal, helping Qianzhou Commune solve its problem of supplying coal for commune and brigade industries for 20 years. Qianzhou Commune has already received 1,700 tons of coal supplied by Zaoyang. In another case, Wu Xian County in Jiangsu Province shipped 200 silk fabric manufacturing machines to Gaoping County in Shanxi Province to help set up a silk fabric manufacturing plant. Gaoping County paid for the machinery with coal, supplying Wu Xian County commune and brigade industries with coal for 9 years.

5. Attention to distribution and use of enterprise profits, and readjustment of enterprise relationships with production teams and the masses. Shandong Province ruled that 30 percent of profits from commune and brigade enterprises were to be retained for commune expansion of reproduction, 30 percent were to be returned to production teams for distribution to commune members, 30 percent were to be used to support agriculture, and 10 percent were to be used for collective welfare purposes. Jiangxi and Shanxi provinces proposed that 60 percent of profits from production brigade enterprises be returned to production teams for distribution within the current year. The masses supported and enterprises put into practice such returns of profits, and both the masses of commune members and production teams suggested ways and means of helping run enterprises well.

Wherever reorganization was done well, the level of enterprise management, quality of products, and economic effectiveness all rose markedly.

1. Inspections of enterprise financial affairs and reorganization brought about a turn for the better in chaotic financial management. Eleven provinces, municipalities and autonomous regions began inspections and reorganizations of commune and brigade enterprise financial affairs, conducting inspections, reorganizations, and the building and perfection of systems simultaneously, which strengthened commune and brigade enterprise financial management.
2. Promotion of economic responsibility systems strengthened enterprise management. About 80 percent of all enterprises instituted various forms of economic responsibility systems as a result of reorganization. In Jilin, Shanxi, and Shandong provinces, 80 percent of commune and brigade enterprises instituted economic responsibility systems, between 60 and 70 percent of them gaining economic benefits thereby.
3. Running pilot projects for the restructuring of the organization of commune and brigade enterprises, restructuring and reorganization being done simultaneously. "The 16 articles" stipulated the need to "change commune operation and commune ownership, and production brigade operation and production brigade ownership of enterprises into production team jointly operated collectively operated enterprises." Sichuan, Hunan, Hubei, Shaanxi, and Jilin provinces set up pilot projects for such a restructuring, and Shaoyang Prefecture in Hunan Province has already organizationally restructured 104 commune enterprises or 40 percent of the total number. Wherever organizational restructuring has been done well, very great changes have taken place in the condition of enterprises as follows: (1) strengthening democratic management, the autonomy of enterprises being assured; (2) expansion of the limits of authority of production teams and commune members to manage enterprises, greater distribution of material benefits, and more active initiative in the operation of enterprises; (3) enterprises are able to plan use of personnel, financial, and material resources in a more rational manner to the benefit of production, supply, and marketing; (4) acceleration of the building and perfection of administration and management systems.
4. Serious attention to technical training and to the technical transformation of enterprises. Incomplete statistics from 15 provinces, municipalities, and autonomous regions including Shanxi, Nei Monggol, and Shanghai show the training in 1981 of almost 110,000 people of various kinds. The People's Commune Enterprise Administration of the Ministry of Agriculture operated 14 specialized training courses that trained more than 1,600 managerial, financial, and technical mainstay cadres. Technical training added further personnel to the technical force, contributed to an upgrading of technical standards in enterprises, and a heartening situation of "four increases" took place in enterprises, namely increase in the number of enterprises turning out quality products, increase in variety, design, color, and style of products, increase in output of traditional products, and increase in superior quality products. Products from 10-odd commune and brigade enterprises in a single county in Wuxi, Jiangsu Province filled a former national void. Technical transformation of enterprises focused on the technical transformation of commune and brigade coal mines, building materials enterprises, and paper-making enterprises. In Shanxi

Province, more than 1,000 of a total of 2,170 commune and brigade coal mines effected "four eradication" through reorganization and transformation (eradication of open flames for illumination, of open flame blasting, of only single shafts, and of simple natural ventilation), achieving 10 standards for reorganization. In Shandong Province, commune and brigade building materials enterprises in Zibo, Zaozhuang, Tai'an, Jinan, and Linyi prefectures improved techniques to make use of waste rock to produce building materials. They produced 1.15 billion waste rock bricks and tiles, and 325,000 tons of lime annually with an output value of 59.6 million yuan while saving 2,100 mu of land and 560,000 tons of coal.

5. Reorganization and strengthening of the supply and marketing organizations in commune and brigade enterprises, and further correction of thinking and workstyle. Numerous prefectures set up four tier provincial, prefecture, county, and commune supply and marketing networks, and initiated joint procurement, joint marketing, procurement agent, and marketing agent campaigns, basing their production on anticipated sales, and using anticipated sales to spur production. Supply and marketing organizations at all levels acted in a spirit of responsibility to the country, to enterprises, and to customers, and to providing service to grassroots enterprises, to serving agricultural sideline production, to serving the peasants' livelihood, and to serving domestic and foreign markets, which played a major role in running lively enterprises, in enlivening the urban and rural economy, and in promoting agricultural production.

As a result of the readjustment and reorganization of enterprises, administration and management was generally strengthened, the number of leaders increased, and a group of young and vigorous cadres able to become leaders in enterprises were chosen who adhered to the four basic principles, were devoted to duty, who understood their trade, and who were able to manage. This lay a fine foundation for running enterprises well and for advancing further healthy development of commune and brigade enterprises.

Status of Commune and Brigade Enterprise Production of Medium Size and Small Farm Implements in 1981

Today China's agriculture depends on 800 million peasants wielding "conventional weapons" in the form of medium size and small farm implements for intensive farming. Medium and small size farm implements include human and animal powered tools for plowing, planting, hoeing, harrowing, harvesting and threshing, leveling the ground, watering, gathering manure, and hauling, plus tools used in the fishing industry. They do not include mechanized or semi-mechanized farm machinery and implements, large improved farm machines and implements, or tools used in the processing of agricultural sideline products.

Most medium size and small farm tools are produced by commune and brigade enterprises. Light industry, handicraft industries, farm machine industries, supply and marketing cooperatives, individual craftsmen, and household sideline occupations also produce some. Acting in the spirit of a document from the State Planning Commission, in 1980 the Ministry of Agriculture and the Ministry of Light Industry jointly issued, "Notice on Ministry of Agriculture Responsibility for Management of Medium Size and Small Farm Tools." Since 1981,

management of the production of medium size and small farm tools has been under central direction of commune and brigade enterprises. As a result of consultations between planning commissions in each province, municipality, and autonomous region and departments concerned, currently 23 provinces, municipalities, and autonomous regions have designated commune and brigade enterprises responsible in place of the Second Ministry of Light Industry. In Beijing, Shanghai, Xinjiang, Xizang, Jiangsu, and Zhejiang, however, responsibility has been given to both the farm machinery and Second Ministry of Light Industry sectors.

Incomplete statistics show more than 100,000 commune and brigade enterprises in the country to be producing medium size and small farm tools, and owning more than 300,000 major pieces of production equipment. This includes more than 20,000 air hammers, more than 10,000 punch presses, more than 30,000 forging presses, 100,000 electric welding machines, and more than 20,000 gas welding machines. In 1981, commune and brigade enterprises produced more than 200 million medium size and small farm tools made of steel, more than 40 million wooden farm implements, and more than 30 million farm implements made of bamboo. Gross output value was more than 400 million yuan. Gross output value in 1981 was less than in 1980; however, since promotion of rural production responsibility systems, substantial increase has taken place in both the manufacture and sale to individual households of medium size and small farm tools, and craftsmen in some commune and brigade enterprises have gone into operation for themselves. It is estimated that during 1981 the output value of medium size and small farm tools produced by individual peasants will reach more than 100 million yuan, and that the supply and marketing system throughout the country will sell more than 500 million medium size and small farm tools. Thus, it is anticipated that the number of medium size and small farm tools that communes and brigades produce throughout the country will be greater than, and certainly no fewer than, the number produced in 1980.

With the implementation of rural economic policies, the promotion of agricultural responsibility systems, the readjustment of the structure of agricultural production, and the steady development of economic diversification, needs of the farflung rural villages for medium size and small farm tools have increased greatly, and this has raised numerous new requirements as to kinds and quality.

In order to meet this new situation, in January 1981 the Ministry of Agriculture and the National Supply and Marketing Cooperative head office issued a notice on attention to medium size and small farm tool production and supply. On 7 April, the Ministry of Agriculture convened a conference in Beijing on national production of medium size and small farm tools, which put forward measures for the strengthening of leadership and improving production of medium size and small farm tools. Following the conference, the entire country actively devoted attention to the production and supply of medium size and small farm tools. Fujian, Zhejiang, Jiangsu, Shandong, Jiangxi, Guangdong, Guangxi, Hubei, Hunan, Shanxi, Jilin, Liaoning, and Heilongjiang organized forces for investigation and study. Some provinces convened conferences on production and supply, increased supplies of raw and processed materials, readjusted production and sales prices, and did a large amount of effective work. In some places, production rose again for an amelioration of contradictions between supply and demand.

On 27 August, acting in the spirit of statements and instructions from leading comrades in the CPC Central Committee and the State Council on problems of production and supply of medium size and small farm implements, the State Economic Commission organized the Ministry of Agriculture, the Ministry of Forestry, the head office of the National Supply and Marketing Cooperative, and the State Materials Bureau for participation in a joint study team, which carried out an investigation and study of production and supply of medium size and small farm implements in Shanxi and Jiangsu provinces. On 3 November, the State Economic Commission and the State Statistical Commission held a symposium in Lanzhou on the production and supply of medium size and small farm tools and small commodities, which was attended by departments, commissions, and bureaus from 17 provinces, municipalities, autonomous regions, and the State Council. This symposium further studied and adopted effective action to improve the production and supply of medium size and small farm tools. Under the aegis of central authorities and leaders at all levels, all jurisdictions universally strengthened administration and management of farm tool plants, established various kinds of production responsibility systems, promoted comprehensive quality control, and revived and established name brand products. Some places promoted new farm tools suited to local characteristics, and scored definite achievements in the substitution of plastic for wood in the manufacture of farm tools, producing numerous medium size and small farm tools that satisfied the peasants. The Yangqiao brand scythes produced by the Guanqiao Scythe Plant in Teng County, Shandong Province, for example, was evaluated as being a national superior quality product in 1981, and was awarded a national silver award for quality. Shanzi brand scythes produced by the Shanhe Farm Tool Plant in Wuchang County, Heilongjiang Province was evaluated as a superior quality product by the Ministry of Agriculture in 1981. Some medium size and small farm tools were also exported to some countries in Southeast Asia and Africa.

(Xia Xueyu [1115 1331 4416])

State Farm and Land Reclamation

New Developments in State-Owned Farm Production Responsibility Systems During 1981

I

During 1981, state-owned farms in the state farm and land reclamation system used production responsibility systems dominated by system of sole financial responsibility and fixed quotas, contracts, and bonuses for further development and improvement of all forms of production responsibility systems.

This linked the compensation for labor of staff members and workers to results of enterprises' production operations, to the personal responsibility of staff members and workers, and to results obtained from labor. It aroused the enthusiasm of staff members and workers, improved administration and management, developed production, and achieved marked economic effectiveness. During the past year, new developments have taken place in state-owned farm responsibility systems, which have been manifested chiefly in the following ways:

1. Responsibility system forms developed from assignment of tasks to production teams to making individuals accountable, and from assignment of tasks to teams to making individuals accountable. Some other farms contracted certain operations to individual staff members and workers. This not only solved the problem of "eating out of a large common pot," but also overcame rather well egalitarianism in distributions, which aroused the enthusiasm for production of staff members and workers.

2. The scope of production responsibility systems expanded from workers to managerial personnel and technicians in administrative and technical offices, and spread from livestock raising enterprises and some farming industries to industry, communications and transportation, construction, and logistical services.

3. As production responsibility systems improved further, wages and the forms of bonuses likewise underwent new changes as follows:

(1) From linking the figuring of bonuses to output to linking the figuring of compensation of output.⁽¹⁾ Formerly a contract and bonus method has been used whereby usually a percentage was deducted from planned profits for use as bonuses. Though such bonuses were linked to output in nature; nevertheless, the percentage was fairly small and the role limited. Today very many farms link the figuring of compensation to output, using products and output as the basis for computing compensation. Such a system has begun to be used not only in the livestock raising industry, but in the breeding industry and in some farming industries as well (including for grain and cash crops, and perennial crops). Since this system is based on figuring and paying staff member and worker wages in terms of output of products meeting quality requirements, it is actually a piecework system. Thus, it pretty well embodies the principle of distributions according to work, and further promotes development of production and reform of administration and management systems.

(2) The former wage grades have been divided into two parts. One part remains a fixed wage, i.e., monthly payments based on staff member and worker completion of quotas and work attendance. The other part has been changed into a fluctuating wage (sometimes termed an output wage, or a settlement wage, or a responsibility wage, or a results wage). The proportion of the fluctuating wage used to be around 10 percent, but now it is between 20 and 30 percent. This fluctuating wage is figured and paid mostly on the basis of output, and helps carry out the principle of distribution according to labor.

(3) Development from only payment of bonuses with no penalties to both bonuses and penalties is a rather good way in which to overcome tendencies toward egalitarianism. (4) After institution of fluctuating wages, many farms retained the former wage grades for wage system workers while providing for

(1) On state-owned farms, linking of the figuring of bonuses to output applies to staff member and worker wage income in the farming and livestock raising industries and breeding industries, using products and output (or output value) that meets specifications as a basis for figuring and issuing wages. It is actually a piecework system for products and output.

technical (graded) subsidies. They set wage grades for wage system workers, thereby contributing to the unity of staff members and workers and better embodying the principle of from each according to ability, to each according to work.

At the present time, production responsibility system forms everywhere are mostly of the following several kinds:

1. Assignment of tasks to production brigades and production teams, with individuals bearing responsibility. This means contracting by production teams, the calculation of bonuses (or compensation) being linked to output. When plans are fulfilled or overfulfilled, a fixed proportion is withheld as bonuses. In agricultural production, the proportions are usually 4:2:4 (i.e., 40 percent being paid to the farm, 20 percent being retained for the production team, and 40 percent being given to staff members and workers as a bonus). In industry and the growing of cash crops, the proportions are usually 6:2:2 or 5:2:3. Such a form is used mostly in the forming of continuous tract farms growing mostly grain where the degree of mechanization is fairly high, and where most operations cannot be carried out by individual staff members and workers or by teams and groups, making it difficult to figure results of work performed by individuals or by teams and groups.
2. Assignment of tasks to teams, with individuals bearing responsibility. In this form, farm production teams let special contracts to logistical teams and groups on the basis of different production tasks to maintenance, farming, animal husbandry, sideline occupation, and logistical teams. This form is characterized by production being carried out by teams and groups and the ability to calculate the results of their activities, as for example the growing of cash crops done mostly by hand, parkland production, and the breeding industry. This form is fairly universal.
3. Tasks assigned to individuals in specialized contracting. Production teams, teams and groups contract to individual staff members and workers a certain output (or output value), costs, and profits for certain size plots of land, herds of livestock, sections of forest, or water surfaces. They then figure bonuses (or compensation) on the basis of output and profits derived. For perennial crops such as rubber and fruit growing, systems of personal responsibility for production have been instituted, and guaranteed to remain in force for several years. In addition, fluctuating wages or the linking of bonuses (or compensation) to production teams is used. The features of such a form are decentralized operations, low mechanization of operations, most operations being carried out by individual staff members or workers alone, and ability to calculate results of activities.

II

During the past year, in the course of developing and perfecting agricultural production responsibility systems, emphasis has been placed on the following tasks:

1. Adherence to "five centralizations." Farms have adhered to "five centralizations" in dealing with contracting units, namely centralized planning, centralized disposition of major products, centralized supply of major materials, centralized setting of bonuses and penalties. Under centralized farm planning, contracting units have planted trees in afforestation, and have built roads and water conservancy. In technical production measures, farms have permitted contracting units to do their own planning in a rational way as farming seasons and production require. Thus, those matters that should be centralized are centralized, and those that should be decentralized are decentralized. Furthermore, mention of "centralization" does not result in everything being centralized to death, and mention of "contracting" does not cause people to throw up their hands and not care.

2. Correct handling of relationships among the country, collectives and individual staff members and workers. In the distribution of income, most units stick to the principle of assuring that the country receives much, that enterprises withhold much, and that individual staff members and workers get an appropriate amount more. Contracting units' output, cost, and profit indices should be both positively reliable and have some leeway, so that staff members and workers can overfulfill production by making an effort. Usually farms divide profits from overfulfillment of plans as bonuses for contracting units, and some practice profit sharing as bonuses. In setting proportions to be distributed to staff members and workers, most units first take into consideration enterprise needs for expansion of reproduction and for operating collective welfare endeavors. With this as a basis, they gradually increase staff member and worker income. Some units withhold a certain amount of reserve funds from profits divided among staff members and workers for overfulfillment of plans as a means of using surpluses in times of shortage with rather good results.

3. There is no "arbitrary uniformity" in forms of production responsibility systems. Conditions vary from one farm to another, and differences are very great. Thus, it is necessary to suit general methods to local circumstances and institute different forms of production responsibility systems. For all production tasks that can be performed independently by individuals or that permit an accounting of results of operations, assignment of tasks to individuals is practiced (sometimes termed responsibility systems that link output to individuals or contracting to individuals). Where it is difficult to figure out individual production results, responsibility systems that assign tasks to groups or teams are used, etc.

4. Strengthening management of planning, statistics, finances, labor, and materials. Strengthening the statistical measurement of various indices of consumption and fulfillment of production helps improve administration and management, and the promotion of production responsibility systems, implementation of the principle of to each according to labor thereby having a scientific basis.

5. Strengthening of ideological and political work. Indoctrination of staff members and workers to carry forward the fine tradition of arduous struggle, intensification of their sense of responsibility at being masters in their own house, and making greater contributions to building the four modernizations.

Farm management units at all levels must strengthen leadership of production responsibility systems, investigate and study diligently, and summarize experiences promptly so that production responsibility systems will steadily improve and develop in a healthy manner.

(Jin Pisheng [6855 0012 3932])

Steady Development of Agricultural Mechanization on State-Owned Farms During Readjustment

The state farm and land reclamation systems has a 250,000 farm machine corps throughout the country in charge of more than 100,000 power machine units and 200,000 operating machines, which do 80 percent of the field work in agricultural production. Numerous reclamation area farms have strengthened leadership of agricultural mechanization work, have improved management organizations, have increased the number of managerial personnel, and have formed effective systems for guiding production with the result that both farm machinery use and management levels have risen to new heights. In order to meet needs of mechanized scientific farming, state farm and land reclamation departments everywhere have correspondingly established and perfected training organizations have written teaching materials, and have given both training tailored to specific needs and specialized technical training. They have trained maintenance crew chiefs and drivers, thereby improving technical quality of maintenance crews, and making further use of the role of agricultural mechanization.

During the past 2 years, we have summarized and promoted the experiences of the Leilongjiang reclamation area in carrying out "Maintenance Work Regulations," in the all-around strengthening of management. During a general national state farm and land reclamation system campaign to study advanced experiences in maintenance and management, all reclamation areas and farms revised and improved various rules and regulations, and strengthened their technical responsibility systems and machinery and implement maintenance. They promoted general use of a double shift maintenance system, achieving "five cleans and four no leaks" (clean oil, water, fuel, machines, and implements, and no leaks of fuel, water, gas, or electricity) for large numbers of machines. Many farms also suited general methods to local circumstances to build tractor sheds, fuel storage areas, spare parts and material shelters, maintenance workshops, and parking areas so that once machines and implements stopped working, they could be inspected promptly, properly parked, and maintained. This improved markedly the maintenance of machines and implements in good condition for many years. In order to save energy, many farms conscientiously instituted fuel purification regulations, and fixed quota fuel issuance systems. They prevented splashing when unloading fuel, provided for second stage settlings, third stage filtering, use of floats when drawing fuel, and sealing tanks when filling them, the better to prevent leaks and to block leaks for a reduction in losses and waste. Since the all-around strengthening of farm machine management through the campaign to study advanced experiences, state-owned farms everywhere have made very great progress in making sure that machine operations are prompt, of high quality, highly effective, consume little, and are safe.

In accordance with central government regulations, state-owned farms everywhere have acted differently depending on whether tractor crews were a part of farms or in stations separate from farms in the wideranging implementation of multiple forms of economic responsibility systems of "contracting, setting quotas, and providing bonuses" for the operation of individual machines. They have instituted unified administration and management of plan tasks that farms have centrally prescribed for tractor teams, and within the teams they have assigned duties to teams and responsibilities to individuals in a linking of production responsibilities, rights, and benefits. They have linked labor compensation to labor results to arouse production enthusiasm among the broad masses of machine crew staff members and workers, achieving greater production, greater income, and greater contributions. During the 10 years of turmoil, farm machine management was lax at Dongxin Farm in Jiangsu Province, and machine crews showed annual deficits of between 50,000 and 80,000 yuan. Production teams did not want to use machines much. In 1977, following institution of a system of "six fixed rewards and penalties" for machine crews, machine crews throughout the farm converted losses into profits for the year, and the amount of machine operations increased 20 percent. In 1980, an economic system linking machines and farms was further instituted, with some of the profits machine crews made in overfulfillment of plans being retained by the teams, the remaining portion being returned to agricultural teams in proportion to the amount of machine operations performed. At the same time, a certain proportion of profits were withheld from agricultural teams to be turned over to machine crews, in this way, economic benefits and distribution of bonuses for both parties were interlinked in a further cementing of relations between machine crews and peasants. Machine crews were transformed from "plowing for others" to "plowing for themselves," and farm teams changed from slight use of machines to much use of machines. Both parties took the initiative to set the stage for an expansion slight use of machines to much use of machines. Both parties took the initiative to set the stage for an expansion of machine operations, which raise the level of mechanization. In 1981, the farm's machine crews realized profits of 152,000 yuan, and saved 94,000 kilograms of fuel. More than 1.6 million standard mu were machine farmed, a 45 percent increase from 1976. In the process of promoting agricultural production responsibility systems, some farms had several farm teams contract work on the same tract. This results in crop variations, differences in techniques used, and plowing at different times, which neither favored efficient use of machines nor helped promote use of advanced technology. State farm and land reclamation bureaus in Liaoning and Jiangsu provinces worked out centralized crop patterns, centralized production techniques, centralized machine operations, centralized assignment of machines, and regulations for machine operators, which solved this problem very nicely and maintained the dominant position of mechanized large scale agriculture.

During the period of economic readjustment, farm agricultural machinery management work focused largely on the tapping of potential, the modification, and the transformation of existing farm machines and equipment. Though the total amount of machinery and equipment in the state farm and land reclamation of the country as a whole is small, since an overwhelming majority of it is old, dating back to the 1940's and 1950's, is technically antiquated, of numerous kinds, of low efficiency, and consumes a lot of energy, its economic effectiveness is very poor. In recent years, a very large number of reclamation areas and farms have taken their own special characteristics into account in

the organization of scientific and technical forces to tap the potential, modify, and transform existing farm machinery and equipment. As a result, performance of a large amount of machinery and implements has been improved; its effectiveness has been increased, some voids have been filled in, and very good accomplishments made. Hongxinglong Management Bureau in Heilongjiang Province installed deep plowing apparatus on 1,200 of its five share plows, making it possible to break through the plow pan that had formed over the years, thereby increasing yields by between 10 and 20 percent. The Heilongjiang reclamation area made multiple changes in its towed harvesting combines as a result of which annual grain and bean losses during harvesting have been cut by between 30 and 40 million jin. Dongxin Farm in Jiangsu Province needed a field ditch system as part of its farm land capital construction, so it refitted ditch digging equipment on hand to produce a complete system of ditch digging machinery, which played a major role in building production. In Xinjiang, the 29th Regiment made its goal the improvement of quality of paddy production on all the land it farmed, and carried out a series of machine and implement renovations. During the past 2 years, it has also used multiple agricultural techniques to improve machine harvesting technology as a result of which mechanization of paddy production has gradually increased, and yields have improved year by year. In 1973 paddy farming was 67 percent mechanized and yields were 592 jin per mu; in 1978, mechanization was 82 percent, and yields were 738 jin per mu; in 1980, mechanization was 90 percent and yields were 796 jin per mu; and in 1981, yields reached 854 jin per mu. In order to apply advanced agricultural technology, numerous reclamation areas and farms modified and promoted numerous small machines and implements that plowed small areas and could be used for multiple operations for seed processing, close planting, laying of plastic mulch on cottonfields, chemical removal of weeds, deep fertilization, return of stalks and stems to the field, spray irrigation, and harvesting of oil-bearing sunflower seeds. By way of reforming its farming system, Baoquanling Farm developed general purpose plowing and seeding machines mounted on chassis that have been promoted for use in the plowing of more than 60 percent of the land in the Baoquanling Management Bureau. The farm has resorted to deep loosening of the soil at regular intervals, has substituted harrowing for plowing, has reduced the number of operations required, has reduced the kinds of farm implements needed, has lowered costs, and has raised output.

Practice has shown mechanization and economic diversification to be mutually promoting. With the rise of mechanization, not only have grain yields increased, but the labor force has been released to develop economic diversification. Following development of farm mechanization on Liangjiazi Farm in Liaoning Province, more than 1,000 surplus farmhands developed production in four different ways, increasing earnings year after year. (1) They went in big for farmland capital construction, eliminating waterlogging on 22,000 mu of land; they sank 35 pump wells, and they improved production conditions; (2) they afforested 6,600 mu; (3) they increased the number of specialized hog raising teams, set up farms for the raising of chickens and deer, and developed 128 specialized households for the raising of livestock and poultry; (4) they enlarged or built new repair plants, brick and tile plants, paper-making plants, and small collective industries. Following technical improvements to improve work efficiency at the Erlongshan Farm Repair Plant in the Heilongjiang reclamation area, hours devoted to major tractor overhauls fell from 550 to 420, and

the human labor saved was used to expand repairs outside the farm and to do processing. As a result income from off-the-farm repairs increased to between 160,000 and 200,000 yuan annually, and each staff member and employee increased output value by an average 700 to 800 yuan annually.

In recent years, as a result of the strengthening of organizational leadership, practice of scientific management, and attention to economic evaluation in the agricultural mechanization of state-owned farms, not only have output and earnings increased, but costs of machine operations have also decreased. In 1980, despite a more than 5 million mu increase in the planted area, costs of machine operations in the Heilongjiang reclamation area were still 40 million yuan less than in 1977. On the farm machine front in the Xinjiang reclamation area, more than 17 million yuan was earned as a result of increased income or saving of expenditures during the first 10 months of 1981. In 1981, the Ministry of State Farms and Land Reclamation convened a state-owned farm machine management work conference to study measures for further strengthening of farm machinery management and improvement of economic effectiveness, and to strive to raise agricultural mechanization to a new level.

(Ministry of State Farms and Land Reclamation Production
Bureau Maintenance Office)

Steady Development of State Farm and Land Reclamation Industries in 1981

During 1981, state farm and land reclamation system industrial production continued steady growth. Output value of state farm and land reclamation industries for the country as a whole reached 4.17 billion yuan, up 9.2 percent from 1980. Outputs of industrial products increased fairly rapidly, particularly outputs of the light and textile industries, the food industry, and the building materials industry, which increased tremendously. For example, output of beer, liquors, starch, monosodium glutamate, refined sugar and cement increased from between more than 10 percent to 70 or 80 percent. As a result of readjustment of the orientation of their service, and changes in their production structure, a new situation developed in the production of machine industries. In numerous provinces, municipalities, and autonomous regions, state farm and land reclamation industrial enterprises created numerous superior quality name brand products. This was the result of the state farm and land reclamation sector and its entrepreneurial units at all levels having conscientiously carried into effect the Central Committee's readjustment program and a series of policies.

1. Shortening of the capital construction front and concentration of forces to carry out the tapping of potential, modifications, and transformation brought into play the potential of existing enterprises, and increased both output value and profits. In Hubei Province, for example, 1981 saw the addition of 70 million yuan more of industrial output value, 60 percent of which derived from the tapping of potential. In Liaoning Province, investment in state farm and land reclamation industrial capital construction was 56.8 percent less than in former years, but forces were massed to tap potential, to modify and to transform, with the result that 21.7 percent of the investment in these

processes was recovered within 1 year. In Jiangsu Province, as a result of the tapping of potential, modification, and transformation, a firm hand on processing of the three wastes [waste water, waste gas, and industrial residues], and savings of energy, profits during 1981 amounted to 1.3 million yuan, up 27.4 percent from 1980, while the plant continued to maintain its honored designation as an advanced chemical fertilizer plant within the province.

2. Readjustment of product structure and the orientation of services, further shifting of the focus of development of state farm and land reclamation industries to the farming industry, the breeding industry and to light and textile industries and food industries that use local resources as raw materials. In 1981, Shanghai's light industry, textile industry, and food industry had a 380 million output value, which was 17.4 percent more than during the previous year. In the course of readjustment, state farm and land reclamation industries closed, suspended, merged, or retooled some enterprises that had no sources of raw materials or markets for their goods, that consumed large amounts of energy, and that had had losses for a long period of time. After some of the 22 enterprises that had been closed, suspended, merged or retooled in Shanghai shifted production to products that could be readily sold, output climbed in a straight line.

3. Multiple forms of economic responsibility systems in which "quotas, contracting, and bonuses" formed principal ingredients stirred the enthusiasm of enterprises, staff members, and workers, and spurred development of production. In Liaoning Province, 92 percent of enterprises practiced economic responsibility systems and production developed very rapidly, industrial output value for the whole year increasing by 13.5 percent over 1980, and profits amounting to 13 million yuan. In Heilongjiang Province, 289 enterprises tried out economic responsibility systems converting losses into profits. In Hebei, 90 percent of 234 enterprises have instituted economic responsibility systems, and despite a 2-month halt in production, the Baigezhuang State Farm and Land Reclamation Chemical Fertilizer Plant, which made an early start, earned profits of 600,000 yuan.

4. Active development of different forms of economic partnerships. The Xiayedil Oil Pressing Plant in Shihezi, Xinjiang lacked raw materials making production extremely difficult. After forming partnerships with nearby farms, its production became assured, and in 1981 profits reached 230,000 yuan in a change from the former situation of losses year after year.

(Du Wei 11 [2629 0251 4539])

Developed Integrated Agricultural, Industrial, and Commercial

Enterprises in the National State Farm and Land Reclamation System

During 1981, national state farm and land reclamation integrated agricultural, industrial, and commercial enterprises developed anew in the midst of national economic readjustment. The state farm and land reclamation sector in 25 of the country's provinces, municipalities, and autonomous regions have established

integrated enterprise companies, and in some areas, primary level agricultural and land reclamation departments have set up integrated enterprise companies. The country's state farm and land reclamation system is currently operating 258 integrated enterprises of various kinds, 66 more than in 1980, and nearly half of all farms have joined in integrated enterprises. Incomplete statistics show a total of more than 5,900 network outlets employing 47,000 people and with sales of goods at retail amounting to about 1 billion yuan. An increasingly large number of people have come to realize that establishment of integrated enterprises engaged in a combination of agricultural, industrial, and commercial activities is an important way in which to spur on development of a farm commodity economy, accelerate fund accumulations in agriculture, find jobs for surplus agricultural labor, and reduce differences between industry and agriculture and between cities and rural areas.

Within integrated enterprise companies, individual accounts are kept for agriculture, industry, and commerce, each sector being responsible for its own profits and losses. For this reason, proper handling of the relationship among agriculture, industry, and commerce is the key to success or failure with integrated enterprises, and an equitable distribution of economic benefits lies at the core. Though methods vary from place to place, the overall principle is a single one, namely the return to production units of a greater share of earnings so that they will receive greater material gain from participation in integrated enterprises. The Chang Jiang Integrated Company in Chongqing, Sichuan, returned to agricultural production units between 60 and 90 percent of profits derived from the processing and sale of agricultural products as varying circumstances permitted. The management department and farms at the Dongxi Hu Company in Wuhan City returned to farms more than 80 percent of profits from sales of live hogs in a rather good solution to the farm and market department's problem of earnings distribution. In addition, by way of serving lower levels of the company, the upper level of the company reduced handling charges to the minimum or collected none at all, and reduced the number of intervening links.

The emphasis in operation of integrated enterprises is on development of agricultural production and on processing industries that process mostly agricultural and livestock products, with commerce serving industrial and agricultural production. The Xiaoshan County Integrated Agricultural, Industrial, and Commercial Enterprise in Zhejiang Province threw off shackles of various kinds and set to work to assemble a certain amount of manpower, financial and material resources for development of farm-operated industries, mostly for the processing of agricultural and livestock products. During the past 2 years, the integrated enterprise has amassed more than 5 million yuan of its own funds to build or expand 40 industrial projects including a brewery, a Shaoxing wine plant, a distilled white liquor plant, a soy sauce pickled vegetable plant, a food plant, a cement plant, an electrical appliances and equipment plant, a silk fabric plant, and a printing and dyeing plant. Farm-operated enterprises have seen unprecedented development, adding more than 100 new lines of products. In 1981, their industrial output value reached 21 million yuan, a threefold increase over 1978, which was before establishment of integrated enterprises. Profits amounted to 3 million yuan, a fourfold increase over 1978. Facts have demonstrated that development

of products suited to market needs that can be readily sold, particularly of "hot selling" goods and brand name products that are highly competitive, not only puts integrated enterprises on a firm foundation, but also assures expansion of agricultural reproduction.

Integrated agricultural, industrial, and commercial enterprises must use numerous forms and channels to promote the uninhibited flow of commodities. In 1981, for example, the commodities exchange fair held in Beijing had almost 60 million yuan of transactions, double the volume of transactions of the national state farm and land reclamation system's trade fair of 1980.

The China State Farm and Land Reclamation Integrated Agricultural, Industrial, and Commercial Enterprise Company has also operated export and import businesses jointly with local foreign trade departments. It has acted as an agent in handling import and export procedures for agricultural and livestock products for integrated agricultural, industrial, and commercial enterprises in various places.

In order to be able to develop integrated agricultural, industrial, and commercial enterprises, many places have correspondingly readjusted policies. The Chongqing Municipal People's Government has ruled that integrated agricultural, industrial, and commercial enterprises, as well as municipal supply and marketing cooperatives, and foreign trade bureaus divide up responsibility for procurement of citrus fruit and tea, and processing and marketing tasks. They have made businesses in integrated agricultural, industrial, and commercial enterprises a part of the state plan. The Guizhou Provincial People's Government has stipulated that 50 percent of the tea produced by integrated enterprises is to be processed and marketed by integrated enterprises. Grain produced by farms belonging to the Dongxi Hu Agricultural, Industrial, and Commercial Integrated Enterprise in Wuhan City is used to develop the animal husbandry industry and the food processing industry, thereby spurring on continued expansion of the scope of state farm and land reclamation agricultural, industrial, and commercial integrated enterprises' operations, and demonstrating the great vitality of this newly established economic organization.

(China State Farm and Land Reclamation Integrated
Agricultural, Industrial, and Commercial Enterprise Company)

Brief Report on State Farm and Land Reclamation Health Activities

As state farm and land reclamation endeavors have developed, state farm and land reclamation health endeavors have also developed from nothing and have grown, scoring marked achievements in the prevention and treatment of illnesses and in planned parenthood.

(1) Preliminary formation of a four tier medical and health network. During the past more than 30 years, they have built a four tier medical and health organizational network, with regimental farm hospitals being the dominant organization. Regimental farm hospitals are responsible for all medical prevention and treatment tasks in the entire regimental farm including prevention and treatment of common illnesses, recurring illnesses, contagious diseases, and local diseases, as well as for organizing and leading patriotic health campaigns and technical direction of planned parenthood. Since

production companies are scattered over a wide area and communications difficult, in order to more closely coordinate disease prevention and treatment with production, and to accommodate the masses, where company size units have no clinics, one or two health personnel have been assigned. They are directly responsible for patriotic health, planned parenthood, precautionary inoculations, and prevention and treatment of minor injuries and minor illnesses. Each state farm and land reclamation branch bureau in a reclamation area has also built a branch bureau level hospital that is larger than a regimental farm hospital, that has stronger technical forces, and more complete equipment. Such hospitals are responsible for consultation with regimental farm hospitals under the branch bureau, for professional guidance, and for some technical training work. Some large reclamation areas have also built primary rank reclamation area hospitals responsible for knotty problems of medical units in the entire provincial (or autonomous region) agricultural and land reclamation system, for initiating rather high, new, and top-notch medical projects, and also bearing responsibility for providing technical direction and training for hospitals at lower levels.

Every level from company size clinics to reclamation area hospitals have a clear division of labor and functions. They are coordinated overall, and work in common to do the job of protecting the health of the farflung staff members, workers, and their families in the state farm and land reclamation system.

Some reclamation areas have also established main bureau and branch bureau level sanitation and antiepidemic organizations that correspondingly divide labor and cooperate with the hospitals. They are responsible for organizing sanitation and antiepidemic work, and technical direction tasks. Some regimental farms have set up sanitation and antiepidemic stations, and most regimental farms have set up health care sections or prevention and care sections (or teams) that look after sanitation and antiepidemic work.

Statistics as of the end of 1981 show establishment of 17,049 medical units in the country's state farm and land reclamation system, including 2,118 at the primary level in regimental farms, 12,432 company medical clinics, and 74 provincial bureau or prefecture bureau level units. Beds total 70,233 in number including 51,150 in regimental farms, and 11,938 at the provincial bureau, and prefecture bureau level. On average, there are 6.13 hospital beds per 1,000 people, higher than the 4.7 average for the nation's cities, higher than the 2.02 average for the nation as a whole, and higher than the 1.47 average for rural villages.

(2) Statistics for 1981 show 88,819 technical personnel in the state farm and land reclamation system including 25,985 medical doctors. Technical medical personnel average 7.75 per 1,000 population, fewer than the 8.46 for the nation's cities (exclusive of administrative, worker, and support personnel, the same applying subsequently in this article), and higher than the 3.02 for the country as a whole or the 1.91 for the country's rural villages.

A survey of medical personnel in reclamation areas in Heilongjiang, Xinjiang, Guangdong, and Yunnan shows 11.6 percent to be top ranking (the national average is 23.8 percent), 32.5 percent middle ranking, and 55.9 percent basic level. For the state farm and land reclamation system as a whole, 21.3 percent of all medical personnel are nursing staff, and between 1 and 2 percent are sanitation and antiepidemic personnel. In terms of national needs, the percentages should be 50 and 7. This shows that though there are substantial numbers of people in state farm and land reclamation system health corps, the proportions are not all they should be. There are not enough nursing staff, sanitation and antiepidemic personnel, or top level medical personnel. This has a major bearing on medical quality.

(3) Exploration of a series of organizational forms, work systems, and methods suited to the state farm and land reclamation system. Most crop and livestock farms in the state farm and land reclamation system are located in places where people are scarce as hen's teeth or in remote places. A single farm is frequently a society, and its scattered and independent nature suit it to the gradual building of a complete medical administrative organization. In the four major reclamation areas in Xinjiang, Heilongjiang, Guangdong, and Yunnan, and in part of some other reclamation areas, there are no medical departments or management bureaus. Branch bureaus and regimental farms maintain their own medical departments or sections, which play a powerful role in organizing, directing, and giving impetus to medical work within their own spheres.

During the busy seasons in farming, primary level medical units organize small teams to go to company size units to treat and prevent illnesses. Most regimental farms plan immunizations and have set up preventive inoculations files. Each summer, they launch propaganda and education about the prevention of communicable intestinal diseases and food poisoning, carrying out health inspections of nurseries, mess halls, and middle and primary schools to assure that children and youth grow healthily.

Many reclamation area regimental farms have their own patriotic health campaign models. They summarize experiences in terms of local circumstances and frame effective regulations. By promoting the experiences of these models, the health situation on regimental farms steadily improves, and they play a very good role in protecting the health of state farm and land reclamation staff members and workers, and in raising the work attendance rate.

State farm and land reclamation staff members and workers enjoy medical care at public expense, about 5 percent being withheld from the wages of staff members and workers for medical payments. For the families of staff members and workers, a system of sole responsibility for medical treatment has been instituted whereby each person pays about 0.30 yuan per month, the state becoming responsible for all medical expenses. The state disburses about 1.5 percent of total wages paid staff members and workers as expenses for the prevention of illness. Practice of medical care at public expense and a system of sole responsibility for medical care reflects fully the superiority of staff member and worker health protection on state-owned farms under ownership of all the people. For example, the Mudanjiang Administration of the Heilongjiang reclamation area worked on the prevention and

treatment of a local type goiter, and in 1981, 95 farms met or exceeded the province's required basic control indices. Of 127,806 patients treated, 102,508 were cured for a 79.2 percent cure rate.

(4) Steady development of medical education. There are four medical schools in the national state farm and land reclamation system, namely the Shihezi Medical College Nursing School. In addition to having a 5 year special medical undergraduate course, and a 3 year technical secondary school for nursing, secondary school medical practitioner and health technicians, they also run various short term training courses for the training of medical personnel in pharmacology, physical examinations, X-rays, pediatrics, physiotherapy, and pathology. These institutions of higher learning have already trained large numbers of medical personnel of all kinds, most of whom have become a mainstay technical force. During the past 30 years, the Shihezi Medical College has graduated a total of 5,097 students in various categories, including the training of 4,525 people or 88.6 percent of all graduates for the Xinjiang state farm and land reclamation system. Since 1959, the Mudanjiang State Farm and Land Reclamation School has trained 1,532 medium rank medical personnel.

Development of state farm and land reclamation medical endeavors embodies the concern of the party and the state for the broad masses of state farm and land reclamation staff members and workers, and it will better advance the modernization of China's socialist agriculture.

(State Farm and Land Reclamation Department
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Farm Machines

Survey of Development of Agricultural Mechanization in 1981

In 1981 numerous new changes took place in the mechanization of agriculture in the wake of national economic readjustment and steady improvement of agricultural production responsibility systems. One was a change in demand for kinds of farm machine products, the peasants wanting a miniaturization and diversification of farm machines and implements. A second was a change in sources of funds to buy farm machines. The uncompensated state investment for the peasants and the special funds of the past were eliminated, and now commune and brigade collectives and individual peasants themselves had to pool funds for the most part. A third change was in the forms of administration and management of farm machines, with an increasingly large number of individual peasants and households operating farm machines in partnership.

1. Practice of "four changes," and "six orientations." Following investigation and study, in early 1981, the "four changes" and the "six orientations" were proposed. The "four changes" are changes in the mentality of blindly seeking after speed in the mechanization of agriculture, adhering instead to a program of adapting general methods to specific circumstances, proceeding only insofar as capabilities permit, and pursuit of economic effectiveness;

change in the "bureaucratic worker" and "bureaucratic merchant" workstyle of farm machine enterprises, establishing a market concept, a business concept, and a customer concept; change in the size and forms of dealing in farm machines, most dealings being done with production teams, but also permitting dealings with peasant household partnerships or individual households; readjustment of the structure of farm machine products, expansion of the service sphere, and energetic increase in the ratio of small farm machine production. The "six orientations" are orientation of farm machine industrial enterprises toward needs developing farming, forestry, animal husbandry, sideline occupations, and fisheries; orientation toward needs of commune and brigade industries for development; orientation toward needs in the daily lives of city and country people; orientation toward export needs; orientation toward the need for technical transformation of all sectors; and orientation toward needs for linking the military and industry into a whole. Practice during the past year has demonstrated the guiding policy of the "four changes" and the "six orientations" to be correct, and great gains have been made in the mechanization of agriculture.

2. Readjustment of the structure of farm machine products.

Following the institution of rural production responsibility systems, and development of economic diversification, peasants everywhere came to need small farm machines. Today the need for small farm machines is on the increase in many places, and in some supply cannot meet demand. In view of this new situation, the farm machine sector has intensified research and production of small farm machines and implements, and 1981 saw considerable development in both kinds and amounts of small farm machines. Today there are more than 2,600 varieties, specifications, and models. Output value of small farm machines has risen from the former 33 percent of farm machine gross output value to about 40 percent. Comparison of 1981 with 1979 shows a 50 percent increase in the number of hand operated misting devices, a 20.6 percent increase in small oil-bearing crop processing machines, a 22.5 percent increase in rubber tired pushcarts, a doubling in the number of small cotton processing machines, a fivefold increase in the number of hand operated transplanting machines, and a definite increase in the numbers of small tractors and associated equipment, and small harvesting machines and livestock machines.

3. Intensification of farm machine research work, improvement of old products, and development of new products.

In 1981, units under the Ministry of Farm Machinery completed work on 134 research projects, with economic benefits derived from some of these projects being rather remarkable. One was the Model 195 diesel engine, which showed marked increase in performance, reliability, and life of easily damaged parts, and a decrease in consumption of fuel and motor oil following improvements. The Dongfeng Model 5 combine was substantially improved. The Tieniu Model 55 and Dongfanghong Model 28 wheeled tractors, Hongqi Model 100 caterpillar tread tractor, and the Dongfeng Model 12 hand tractor underwent model changes. At the same time, a series of readily salable small machine products and energy saving products were successfully developed. One was the FD-2.6 wind powered waterlifting unit developed by the Hohhot Livestock Machinery Institute. This unit's wind wheel is 2.6 meters in diameter, and may be used in places having an average wind velocity of 3.5 meters per second.

4. Formulation of several policy measures. Individual peasant household and combination of household purchases of farm machines such as tractors to carry out farm production and to serve the lives of commune members are in keeping with rural readjustment of the agricultural production structure, the practice of multiple forms of production responsibility systems, and development of economic diversification. When peasants make their own decisions about the production tools that provide optimum economic results, this helps development of agricultural production and enlivens the rural economy. It is also consistent with party policies at the present stage of permitting the co-existence of diverse economic components and diverse forms of operations. In addition to using their farm machines for agricultural production, owners of farm machines may also use them to plow for others, charging a fair fee for the service. In dealing with privately owned farm machines and implements, supply of petroleum and spare parts for them, repair of them, and training of operators, departments concerned should do the same thing they do for collectively owned farm machines. Rural commune and brigades and commune members may use their own tractors or power boats for field hauling as means of production and means of livelihood for transportation in their own commune and brigade, as well as to transport goods turned over to the state for the commune and brigade or to haul agricultural sideline products for sale to country fairs. In principle, tractors may not be used in a hauling business. However, in times of seasonal or other special need, if a people's government above the county level approves, tractors may be used for a hauling business for a specific period of time. Fuel for tractors engaged in the hauling business is to be supplied at list price, with taxes paid the state in accordance with regulations.

(Long Jiyen [7893 1015 6056])

Water Conservancy

Survey of Water Conservancy in 1981

During readjustment of the national economy, the emphasis of water conservancy work in 1981 shifted to improvement of management. All water conservancy construction tasks in the country were completed rather well, and very great accomplishments made. During 1981 quite a few places sustained serious flood and drought disasters, and under leadership of the party and government, the broad masses of people waged stubborn struggle against natural disasters in which water conservancy projects and facilities played a very major role, to make 1981 the second highest bumper harvest year since the founding of the People's Republic.

1. Broad Masses of Army and Civilians Battle Floodwaters

In 1980, droughts occurred in north China and waterlogging in south China, while in 1981 the overall picture was one of droughts in the east and waterlogging in the west. Frequent torrential rains and floods occurred mostly in the western parts of the country, and principal places experiencing floods were as follows: Sichuan, southern Shaanxi, eastern Gansu, Qinghai, and the western part of south China, as well as Liaoning and Heilongjiang provinces. A 130 million mu area of the country was flooded or waterlogged, and the disaster area covered 59.59 million mu. In Sichuan Province, 13.11 million mu of farmland in 195 counties (or municipalities) was inundated, the disaster area covering 5.28 million mu,

with 2,691 industrial and mining enterprises halting production. The Chengdu-Chongqing, the Chengdu-Kunming, and the Baoji-Chengdu railroads and 18 highways were cut, and central authorities organized groups to visit Sichuan to express sympathy and solicitude. Officers and men of the PLA in Sichuan made 200,000 emergency rescue trips to disaster areas. The broad masses of people worked as one to fight the floods and provide disaster relief and to make a return to daily life, winning very great victories. At Yichang in the middle reaches of the Chang Jiang, the volume of flow at flood crest was 7,100 cubic meters per second, surpassing the all-time high record since the founding of the People's Republic. At Sha City, the flood crested at 44.46 meters, the third highest crest since hydrological records began to be kept in 1903. The Gezhou Dam withstood the test of floodwaters flowing at 7,200 cubic meters per second, and the safety of the great Jing Jiang dike was preserved without using the flood diversion area. Record flooding took place in the upper reaches of the Huang He. Under direct guidance of State Council leaders and as a result of the united struggle of the broad military and civilian masses, the Longyang Gorge cofferdam that is under construction, the Liujia Gorge reservoir, and the long dikes that extend for 1,000 li along the Huang He, as well as the safety of the Baotou-Lanzhou Railway were maintained intact. On 1 September 1981, a 14-force typhoon and large tides attacked Shanghai. The tide mark that evening was about 2 meters higher than most parts of the city. Shanghai took urgent action to open nine major flood gates along the Pudong River on the Chuanyang He, Dazhi He, and Jinhui Gang. Within 2½ hours, these gates accepted more than 10 million cubic meters of tidewater, thereby lowering the level of the Huangpu Jiang and assuring the safety of the lives and property of the broad masses of the people.

Water conservancy projects displayed marked effectiveness in the battle to withstand floods. At the Shengzhong Reservoir, which is under construction in Nanbu County, Sichuan Province, the volume of flow into the reservoir at flood crest was 4,300 cubic meters per second, but thanks to the regulation that the reservoir provided, maximum volume discharged was 1,300 cubic meters per second, with the result that the water level downstream at Changzhen fell between 2.3 and 4.4 meters. In addition, disaster to 40,000 mu of farmland was reduced. In 1966, the county seat of Renshou County was inundated, but despite similar torrential rains in July 1981, the Renshou County seat escaped disaster thanks to the building of the Heilongtan Reservoir and canals for the diversion of floodwaters. On 28 July, volume of flow into the Songshu Reservoir in southern Liaoning Province was 5,498 cubic meters per second. After being impounded in the reservoir, the volume of flow discharged was only 1,240 cubic meters per second for a 79.3 percent reduction in the flood crest, assuring the safety of the 50,000 inhabitants of Songshu Town and of the Changchun-Dalian Railroad. Volume of flow into the Liuda Reservoir during flood crest was 2,270 cubic meters, but volume of flow out of the reservoir was only 369 cubic meters per second, an 83.7 percent reduction in flood crest. As a result the inundated farmland area was reduced from 100,000 mu to 20,000 mu. During torrential rains on the Sanjiang Plain in Heilongjiang Province, on 6 August the volume of flow at flood crest into the Qingnian Reservoir in Mishan County was 620 cubic meters per second, but volume discharged was 100 cubic meters per second. As a result the inundated farmland area was reduced from more than 100,000 mu to 10,000 mu.

2. Sustained Struggle Against Drought

During the spring of 1981, drought was widespread in north China. During autumn, fairly scant rain fell in north China's major wheat producing areas, which received from 50 to 90 percent less than normal. Normal growth of autumn-harvested crops, and sowing and sprouting of winter wheat were impaired. In Beijing, Tianjin, Hebei, Shandong, and northern Henan, 72.8 percent of the wheatfield area was drought stricken. In Beijing, Tianjin, Hebei, Shandong, and Shanxi, 58 large reservoirs averaged more than 4 billion cubic meters of water less than the amount impounded in normal years, and 2 billion cubic meters less than the amount in storage during the previous spring. As a result, the water table dropped, and in Hebei and Shandong provinces difficulties arose in pumping water from 260,000 wells.

Summer drought and dog days drought also advanced into Guizhou, Hunan, Hubei, and Jiangxi provinces in south China, a 62.44 million mu area in these four provinces being drought stricken.

All the drought stricken provinces, municipalities, and autonomous regions strengthened leadership of drought resistance work, studied and formulated actions to be taken against the drought many times, and actively organized and mobilized the masses in struggle against drought. During the hectic stage of fighting drought, leading cadres at all levels went into the frontlines to fight drought. Statistics from Tianjin, Hebei, Shandong, Henan, Shanxi, Jiangsu, Anhui, Hunan, Guangdong, and Guangxi showed 320,000 cadres and a 59.16 million workforce as having gone into the front line of the fight against drought at the height of the fight.

The water conservancy projects and the farmland capital construction projects that had been built over many years played a major role in the struggle against drought. The drought stricken area of the six provinces of Hebei, Henan, Jiangsu, Anhui, Hubei, and Hunan covered more than 150 million mu, but because of the full use made of water conservancy facilities, the disaster area was limited to 47 percent of the drought affected area, and grain output was 18 billion jin greater than in 1980. In Hebei Province, where spring drought was most severe, pump wells showed their power. More than 1 billion cubic meters of surface water was used and 6.4 billion cubic meters of ground water lifted to water more than 45 million mu and bring in a summer grain harvest that was 8.7 percent larger than in 1980.

In Shanxi's Yanbei Prefecture, the irrigated area amounted to only 20 percent of the prefecture's cultivated land but accounted for 60 percent of the prefecture's output. During the July to September drought in Hunan Province, 28.4 billion cubic meters of water were stored, diverted or pumped to irrigate 36.44 million mu of wetlands and 3.55 million mu of drylands, and the province's grain output was 900 million jin more than in 1980. Conversely, some provinces having relatively scant water conservancy facilities were poorly equipped to fight drought. In Guizhou and Gansu provinces, for example, the drought affected area covered 24.15 million mu, more than 80 percent of which became a disaster area, with a 2.8 billion jin decline in grain output.

3. Trouble-Free Diversion of the Huang He to Help Tianjin

Beijing and Tianjin annually require 1.4 billion cubic meters of water, but Miyun and Guanting reservoirs have all they can do to insure sufficient water for Beijing's industries and vegetable fields, so a serious crisis exists for Tianjin in getting water for its industries and daily life. Consequently, no fundamental change for the better has taken place in the storage of water in Miyun and Guanting reservoirs, and it has been necessary to divert the waters of the Huang He and accelerate building of the project for diversion of the Luan. A socialist cooperative spirit has been carried forward in diversion of the Huang He to help Tianjin, Henan, Shandong, and Hebei, and tremendous effort has been made. Henan planted wheat ahead of schedule to which the Renmin Shengli Canal carried water ahead of schedule. Dezhou and Liaocheng prefectures in Shandong Province fielded 430,000 civilian laborers and 8,000 cadres to complete the clearing of 20 million cubic meters of silt from the Weishan and Panni Huang He diversion canal, expand the project, and open the sluice gates to send water on its way 4 days ahead of schedule. Hebei province closed all pumping station culvert floodgates along the entire project to make sure that "once the water had entered, there was no interdiction of the waters of the Huang He." Thus, by 20 January 1982, Tianjin had received 450 million cubic meters of water. After deducting the volume of water used during the period of its movement, the amount lost through evaporation, and the amount needed to keep the reservoirs full, by 6 March 1982, the city had a useable 120 million cubic meters of water.

Now work is fully underway on the northern section of the Luan He diversion project (to divert the Luan into Tianjin), and work has also resumed on the southern section.

4. Gezhou Dam Project Slows the Flow of the Chang Jiang, Permits Navigation, and Generates Electric Power

In the spring of 1981, the key Gezhou Dam Water Conservancy Project on the Chang Jiang succeeded in interdicting the flow of the river 1 year ahead of schedule. Few projects on such a grand scale exist in the world, and this project has been unprecedented in the history of Chinese construction of water conservancy and hydropower generation. It took 10 years to build, required the digging out and filling in of 87,256,900 cubic meters of earth and stone, the use of 6,689,900 cubic meters of concrete, installation of 32,685.44 tons of structural metal, 124,180 meters of slurry and water drainage ports, and the digging of 19,431,400 cubic meters of gravel. Interdicting the flow of the Chang Jiang is characterized by a large volume of flow, difficult conditions for slowing the flow, and the powerful thrust of the river. Filling in the upper reaches of the river to build a support dike for the Chang Jiang cofferdam began on the left bank on 1 October 1980 and reached mid-stream by 15 November. On the right bank, filling began on 15 November 1980, reaching mid-stream, by 27 November. In the lower reaches, filling to form the support dike reached mid-stream by 14 December. At 0730 hours on 3 January, the first shot was fired in the battle to interdict the flow of the Chang Jiang. The left and right banks began filling in the mid-river breach in the dikes at the same time, and after a hectic struggle lasting 36 hours and 23 minutes, the dike across the river was victoriously joined together at 1953 hours on

4 January. The dike was 203 meters long and consisted of 106,000 cubic meters of material, 79,000 cubic meters of which was put in place on the maximum day. Results of this arduous labor were hailed by the party and government, and a gold commendation for a superior project and an award for design excellence was awarded, signifying that China's water conservancy and hydropower construction had reached a new level.

After interdicting the flow, construction workers on the key Gezhou Dam water conservancy project continued to do battle, and within 1 year they built a cofferdam, kept the river open to navigation, withstood flooding, and generated electric power. Within 6 months, they completed the filling in of the cofferdam with 5.5 million cubic meters of material, the impact boring of holes in the cofferdam anti-seepage wall totaling 34,000 meters in depth, and the pouring of 25,000 cubic meters of concrete, making this China's largest continuous underground wall project at the present time. By 5 June 1981, water had been impounded to a height of 60 meters, and a total of 1.2 billion cubic meters was in storage. On 27 June, navigation between Hankou and Chongqing, which had been interrupted as a result of the slowing of the flow of water, was resumed. Boats plying the Chang Jiang passed smoothly through the three navigation channels of the Gezhou Dam on a flow of 50,000 cubic meters of water per second. In addition, as a result of the rise in water level, some of the shipping channels through the three gorges of the Chang Jiang were improved.

Gezhou Dam's number 1 and number 2 power generating units can each generate 175,000 kilowatts of electric power. They are the country's largest size liquid transfer type turbine electric power generating units, and formally began producing power in 1981. Within a year, they were able to generate 225 million kilowatt hours of electricity. Now the Gezhou Dam project is using a summary of experiences with the project during the initial phase, the better to complete the struggle during the second phase.

5. Shift of Focus to Management in Water Conservancy Work

During the past year, all levels of the country's water conservancy sector have gradually shifted the emphasis of their work to improvement of management on existing projects.

1. They began with the formulation of water conservancy rules and regulations. During 1981, they formulated a series of rules, regulations and methods for project management and farmland water conservancy, providing guidelines to be followed in water conservancy management and making management scientific so as to make the most of benefits from reservoirs, sluice gates, protective dikes along rivers, and from wells and aqueducts.

2. Organization of existing water conservancy projects. All jurisdictions began to conduct safety inspections and set standards in the management of water conservancy projects in accordance with state requirements for checking designs, for carrying out supplementary inspections for acceptance, for clarifying functional responsibility for setting up organization structures, for establishing systems,

and for examination and approval of plans. They have checked results and set actions to be taken; they have inspected overall administration, and they have initiated "three checks and three requirements" in planning.

3. Cutbacks in the scale of capital construction. A halt or slowdown in construction has been slated for 17 large and medium size projects as a way of assuring construction of the key Gezhou Dam water conservancy project.

4. Further development of all-around administration. The Water Conservancy Project Overall Administration Company has signed 111 agreements with 20 provinces, municipalities, and autonomous regions (including with 200 water conservancy project management units), and has invested a total of 22.1 million yuan in support for construction of a number of all-around administrative bases. The substantial development of overall water conservancy administration endeavors has produced a balance between receipts and expenditures or slight surpluses from operations in 16 provinces, municipalities, and autonomous regions.

5. Active launching of staff member and worker education. During 1981, the Ministry of Water Conservancy and constituent units conducted a total of 1,580 training classes, some of them after-hours classes and others classes attended by those excused from duties, training a total of 48,705 students. Attendees at these classes including 2,339 leading cadres above the section level, and 11,404 technical and managerial cadres.

6. Strengthening Basic Water Conservancy Work

New achievements were made during 1981 in basic tasks on the water conservancy front such as surveying, designing, hydrology, and scientific research. As a result of more than 2 years of effort, results of a national water resources survey and evaluation and water conservancy zoning work have been preliminarily collated; results of a national water quality survey and evaluation have been completed, and a simplified zoning report for water conservancy has been worked up. In addition, a Zhu Jiang planning document has been prepared, and surveying, investigation, and study of the Huai He and Tai Hu have been organized.

(WATER CONSERVANCY IN CHINA editorial department)

Survey of Water and Soil Conservation During 1981

Because of the long period of feudal and reactionary rule up until the time of the founding of the People's Republic, the country's natural agricultural resources were looted with the result that the foundation for China's agricultural production, its soil and water resources, were seriously damaged. During the period immediately following the founding of the People's Republic, a 1.5 million square kilometers area was undergoing soil erosion, in addition to the 1.2 million square kilometer area of wind erosion and the Gobi Desert. The soil erosion area was mostly in the loess area of northwestern China, in the red soil hill land mountain region of the area south of the Chang Jiang, in the clay mountainlands of north China, and in the black soil region of northwestern China.

China's working people have long struggled against soil erosion and have accumulated plentiful experience in soil and water conservation. For example, the terraced fields of Sichuan Province, and the dikes of Shanxi Province have been in existence for from several hundred to 2,000 years. Since the founding of the People's Republic, the party and state have been extremely attentive to soil and water conservation. They have formulated a series of programs, policies, and laws, and have conducted surveys, zoning, and planning on a huge scale. They have also carried out soil and water conservation everywhere in the country, proceeding from classical experimentation and demonstration to wide area promotion, from control of individual problems to all-around harnessing, and from control of scattered areas to control of concentrated continuous tracts. In recent years, in particular, they have carried out comprehensive control of small river basins for remarkable results that have been greatly appreciated by the broad masses of people.

Following the smashing of the "gang of four," thanks to the concern shown by the CPC Central Committee and the State Council, water and soil conservation work has developed rather rapidly and over a fairly wide area. The middle and upper reaches of the Huang He, in particular, became a focus for control very early, and a mass campaign was pursued that produced very great results. By the end of 1981, a 75,000 square kilometer area of soil erosion had been brought under control. This was 17.5 percent of the area requiring control and included the building of 38.24 million mu of terraced fields (including strip fields and fields with low banks separating them), 2.64 million mu of flatlands, 6.83 million mu of small tract irrigated lands (including flood irrigated fields and the making of fields on river flats, but not including large irrigated areas), afforestation of 42.76 million mu of water and soil conservation forests, and the planting of grass on 10.29 million mu. In every place that has undergone control, and particularly in some counties, communes, production brigades, and small basins where control has been particularly well done, striking results have been achieved in development of production, in changing poverty stricken conditions, in controlling soil erosion, and in reducing the amount of silt entering the Huang He. In addition, models have been established and experience accumulated; science has been advanced, and people have been trained in the laying of a fine foundation for water and soil conservation work.

Since 1979, comprehensive control of small basins has developed anew in every province and autonomous region. This plus the liberalization of economic policies and decrease in state procurement quotas has enabled the masses to catch their breath. In addition, special funds have been allocated to help old liberated areas, minority nationality areas, and remote areas to strengthen the building of their agriculture. In recent years, the level of production has risen everywhere in the middle reaches of the Huang He, and the standard of living of the masses has improved. Following establishment and perfection of agriculture production responsibility systems in particular, mass enthusiasm for production and production efficiency have risen greatly, and a large part of the work force has been able to work on soil conservation. In some counties, communes and brigades that have done a good job of implementing production responsibility systems, a much better job of soil conservation has been done than heretofore, and new experiences gained under new circumstances. Prominent models of soil conservation include the following:

1. Gaozigou Production Brigade in Mizhi County, Shanxi Province is located in a ravine-cut hill and mountain area of the loess highlands. It covers a 4 square kilometer area, has a population of 400, and had 3,000 mu of cultivated land producing less than 130,000 jin of grain before control was begun. Following control, gross output of grain in 1978 came to 470,000 jin, or an average of 1,070 jin per capita, and income in the brigade averaged 108 yuan per capita. Between 1958 and 1971, this brigade mostly built field terraces, built dikes, afforested, and planted grass. Between 1972 and 1975, the most important work was water conservancy construction. Since 1976, it has built consistently high yielding basic farmland, producing basic farmlands from the existing cultivated land, afforesting, and growing grass in a "three three system." Results from control have been marked, with 49.2 percent of the total area having been brought under control. For many years, virtually no floodwater silt has had to be removed from ditches. They have done a conscientious job of all around control of soil, forests, and grass, have made rational use of water and soil resources, have allowed cultivated land to revert to forests or pastures little by little, thereby gaining all-around benefits for farming, forestry, and animal husbandry.

2. Nanxiao Creek basin in Qingyang County, Gansu Province covers a 36.2 square kilometer area, has a population of 8,323, and had 25,000 mu of cultivated land in 1978 of which 93 percent was cultivated tableland. Gross output of grain was 7.46 million jin, or 896 jin per capita, and per capita distributions averaged 83 yuan. The masses here began building small field projects on the tableland (such as building of upraised pathways between fields, basket-shaped ponds along irrigation ditches on hillsides to catch overflow and to prevent ditches from bursting), catchments (such as the building of low-lying ponds, water pits, and banked areas to hold water), and projects to protect the tableland (such as building of ridges along ditches). At the same time, in the middle of the main stream, a reservoir with branch ditches and capillary ditches, and sluices were built, with trees planted along the base of the ditches and fruit orchards built on banks along them. This accumulated experience permitted the formulation of control plans for the entire basin, and the carrying out of comprehensive control. Furthermore, horizontal strip fields began to be built on the tableland and mountain orchards spread. Within the creek, embankments were built to form upraised areas, while care of forest trees was also intensified. Both economic benefits and benefits from blocking silt and storing water increased markedly. Since 1970, large numbers of terraces have been built on the cultivated tableland, trees planted in the four besides (beside streams, roads, villages, and houses), and pump wells and pump irrigation stations built on the high tableland. Today effectiveness in blocking silt is 97 percent, and effectiveness in storing water is 55.6 percent.

3. Qugu Production Brigade in Hequ County, Shanxi Province is located on the banks of the Huang He. It is 19,000 mu in area and has a population of 2,947. Long ago this production brigade proposed: "mountains first, then flatlands; branches first, then main streams, starting at the top and going to the bottom, building defenses to suit the peril, use of bushes, shrubs, grass, water, dikes, and terraces in combination, and a combination of engineering and biological measures for all-around control of small basins." During the past 20 years, the people themselves have pooled more than 1.2 million yuan and

invested 1,487,000 man hours in overall control, concerted control, and continuous control. Today the controlled area covers 16,500 mu, which is 97 percent of the area needing control; the forest and grass cover rate is 58 percent, and huge changes have taken place in production conditions. Despite severe drought during 1980, when annual precipitation amounted to only 175 millimeters, peanut yields were more than 580 jin per mu, and gross output was more than 2.98 million jin.

During 1981, all the provinces and autonomous regions in the middle reaches of the Huang He scored substantial achievements in comprehensive control of small basins. Shaanxi Province focused on the control of 69 small basins covering an area totaling 3,490 square kilometers, completing the control of a 208 square kilometer area during 1981, or 6.4 percent of the area requiring control. Shanxi Province focused on control of 101 small basins in 28 counties in the western mountains (in the middle reaches of the Huang He), the basin area totaling 4,877 square kilometers. In 1981, work was completed on 241 square kilometers, which was 8.8 percent of the soil erosion area. In Gansu Province, control of 649 small basins was begun, the basins covering an 11,400 square kilometer area. By 1981, 2,963 square kilometers had been brought under control. This was 23.5 percent of the area requiring control. The Nei Monggol Autonomous Region began control of 84 small basins covering a 2,661 square kilometer area, bringing 557 square kilometers under control in 1981. This was 21 percent of the area requiring control. By 1981, Qinghai Province had brought a 122.3 square kilometer area under control. This was a 22.3 percent overfulfillment of the originally planned 100 square kilometers. Eight mountain and hill regions of Henan Province planned control of 21 small basins, and had brought an area of 72.4 square kilometers under control by 1981 in overfulfillment of control plans.

Water and soil conservation is a new science that has gradually developed since the founding of the People's Republic. Today the country has 70 water and soil conservation research stations (or institutes), and these units' research personnel have made numerous research achievements by persevering in service to production. These achievements have also been promoted and applied to the building of production. In breeding superior strains of trees and grasses, sweet clover and shadawang [3097 2092 2489], for example, are both superior pasture grasses of high economic value and that conserve soil and water. They are being widely grown in all erosion areas of north China, and particularly along the middle reaches of the Huang He. Then too, water powered flush filling to build dikes is an advanced construction method that costs little, is fast, and is very effective. This method won a national agricultural science and technology achievement award in 1981. Other award winners were small basin control done in Shanxi Province, mountain region fruit orchard experiments, and experiments with silt arresters and with afforestation of ravines with locust trees conducted by the Huang He Water Conservancy Committee. At the same time, interarea and interdepartmental cooperation in research has been carried out. For example, the three provinces of northeastern China are in the process of cooperating on three research projects as follows: a study of soil erosion patterns under the auspices of Heilongjiang Province; research under the auspices of Jilin Province on the introduction of superior varieties of trees and grasses for water and soil conservation; and research on comprehensive control of small basins being carried out under the auspices of Liaoning Province.

In addition, quite a few provinces, municipalities, and autonomous regions have operated training courses in water and soil conservation. The training corps has steadily expanded, and knowledge of the special field of water and soil conservation has spread and increased.

(Liu Chunyuan [0491 2504 0337])

Aquatic Products

Survey of Aquatic Products in 1981

During 1981 aquatic products endeavors made new progress in continuing to carry out a readjustment program of rational use of resources, energetic development of breeding and emphasis on improvement of quality. National aquatic products output reached 4,605,000 tons for a 12.3 percent overfulfillment of the year's production plans, and for an 8.8 percent increase over 1980. Freshwater rearing of aquatic products increased tremendously for the third year in a row.

China is one of the world's countries with the largest inland water area. More than 75 million mu of the country's total 400 million mu water area may be used for artificial breeding. Coastal seas provide 7.4 million mu of shallows for breeding. Vigorous development of freshwater rearing and marine rearing is China's emphasis in the readjustment of aquatic products and the future direction of development. In 1981, all jurisdictions made rearing a major project for economic diversification, and devoted attention to using water surfaces and shallows, and to implementation of fish rearing production responsibility systems. At the same time, a rational division of water surface ownership and use rights, as well as methods for dividing up products brought about a situation in which the country, collectives and individuals all benefited. During 1981, the country's freshwater rearing area reached 43.2 million mu, a 5.8 percent increase over 1978. Gross output of freshwater fish was 1.37 million tons, up 27.5 percent from 1978, and for 3 consecutive years, the annual increase averaged nearly 10 percent. Counties and municipalities in which freshwater fish output was more than 5,000 tons rose from 27 in 1980 to 36.

As a result of having correctly implemented use rights and production responsibility systems in beach areas, new progress also took place in marine breeding. Success in artificial culturing of prawn larvae brought the breeding of prawns to new heights. Breeding of marine delicacies and shellfish found in coastal shallows such as scallops, beche-de-mer, and abalone also increased in varying degrees. The country's marine breeding area amounted to 2.2 million mu in 1981, an increase of 74,000 mu over 1980. Output was 458,000 tons in 114.5 percent fulfillment of national plan and up 9.7 percent from 1980.

Simultaneous with the rapid development of breeding was continued readjustment of marine fishing industry production. During 1981 further protection was afforded to the reproduction and maturation of young large croakers and hair-tails. Two young fish preserves were established in the East China Sea and the Yellow Sea. In addition, arrangements were made regarding the number of boats that could be used during fishing season in the fishing grounds of the East China Sea, the Yellow Sea and Bohai. In addition, in order to reduce the pressure on in-shore resources, some key state-owned marine fishing companies actively engaged in deep open production. In 1981, the country's deep

open production. In 1981, the country's deep sea catches totaled 200,000 tons, up more than 20 percent from 1980. In recent years, measures to protect in-shore fishing industry resources have shown preliminary results. A turnaround has occurred in the decline of fish resources that grow quickly and replace themselves rapidly. During both 1980 and 1981, the number of hairtails increased in the East China Sea.

During 1981, coastal fishing industry communes and brigades changed their sole dependence on catches, actively developing economic diversification. Statistics from more than 9,000 basic accounting units show a year by year increase in output value from diversification. In 1979, it increased to 42 million yuan, in 1980 to 50 million yuan, and it increased again in 1981. Formal trial operation of integrated fishing, industrial, and commercial enterprises rose from three in 1979 to 15. In Zhoushan Prefecture, Zhejiang Province, about half of all basic accounting units and fishing households were members of integrated enterprises, and their outputs were also roughly half of gross output for the prefecture.

During 1981, aquatic products supply and marketing work adhered to the principle of taking planned regulation as the key link with market regulation being supplementary. Appropriate readjustments were made in the scale of assigned procurement of products; economic measures such as linking of price controls and fish products were strengthened, and incomplete statistics show that volume of aquatic products reaching urban and rural country fair markets in the country to have reached 760,000 tons, up 20 percent from 1980. Aquatic products supply and marketing departments in many places organized the delivery to markets of live fish, which made the masses very happy.

Departments concerned in all jurisdictions devoted serious attention to keeping aquatic products fresh, to processing them, and to using them in multiple ways. During 1981, the prime rate for fresh marine fish increased. For example, the Dalian Marine Fishing Company had three times the number of fish packed in cases in 1981 as in 1980, or 47 percent of the total catch. Prime rate for fresh fish was 13.5 percent greater than plan, and up 2.5 fold over 1980 for an all-time high. During 1981, 23 large and medium size cold storage lockers were built and went on stream through. Newly added low temperature cold storage locker capacity totaled 36,000 tons, and ice storage capacity increased by 27,000 tons. Daily freezing and processing capacity and machine ice making capacity each increased by 1,300 tons, making 1981 the year of greatest increase since the founding of the People's Republic. The amount and kinds of fish processed and used in multiple ways increased more and more. Today the country has 104 aquatic products processing plants above the county level. In addition, processing plants belonging to the aquatic products supply and marketing system are in virtually all the more than 200 coastal counties. During 1981, the kinds and amounts of aquatic products processed including frozen and pickled items, dried items, fish meal, cooked products, canned goods, and fish liver oil increased over 1980, with gross output reaching about 900,000 tons. Frozen food processing developed particularly rapidly. In 1981 the country's frozen products reached 554,700 tons, up 14.9 percent from 1980. Processing and multiple use of fish products not only raise the economic value of fish and reduced waste, but also provided markets with greater amounts of aquatic products, and increase both national and collective economic income.

Potential for freshwater breeding is now very great and not fully used. Some places lack fry, or their techniques are unable to keep pace. Readjustment of marine catches has yet to convert a vicious cycle into a benign cycle, and catching capabilities are continuing to increase. Destruction of resources is a long way from being halted. Scientific and technical forces are weak, levels of management low, etc., and require further readjustment and solution.

(Chen Xiaojun [7115 2556 6511])

The Freshwater Fishing Industry in 1981

During 1981, China's freshwater fishing industry production again saw new development with gross output reaching 1.37 million tons, output from breeding reaching 1,014,000 tons. This was a 10.5 and a 12.6 percent increase respectively over 1980. For 3 years in a row, the freshwater fishing industry has grown at a steady and unprecedented 8.7 percent annually.

Both the party and the state are extremely attentive to development of China's freshwater fishing industry, with leaders in all jurisdictions further heightening their understanding of the importance of using water surfaces. Jiangsu, Guangdong, Sichuan, Anhui, and Shaanxi provinces have all made decisions about development of freshwater breeding. Following 3 years of readjustment, the aquatic products industry has made freshwater breeding the emphasis in development of aquatic products production, and has correspondingly readjusted disposition of manpower, material, and financial resources. As a result, the freshwater fishing industry grew steadily during 1981.

1. More than one-half the country's water surfaces used for the rearing of fish have set up various forms of production responsibility systems for effective solution to the former situation of no one being concerned about barren waters as well as "stocking but not caring for, or stocking and getting no return." All jurisdictions have worked out, one by one, water surface use rights for all kinds of water surfaces of different sizes, and some have even issued water surface use certificates so that responsibilities, rights, and benefits will be clearer and better linked in order to stir mass enthusiasm for rearing fish. Not only are many water surfaces that have long remained idle now being used, and the breeding area enlarged, but there has been an increase in output over wide areas. Water surfaces used for the breeding of fish throughout the country amount to 43.2 million mu, a 0.56 percent increase over 1980. In Guangdong, rearing of fish in ponds has produced yields averaging 350 jin per mu. Xintan Commune in Xiqianshan in the hill region of Jiangxi province formerly produced only 300,000 to 400,000 jin of fish yearly; however, now that tenders are submitted for the contracting of fishponds, some specialized contracting being done with compensation figured on the basis of output, and some areas being designated for household fish rearing, 90 percent of reservoirs and 100 percent of mountain ponds are rearing fish for an annual output of 800,000 jin.

2. Rural commune and brigade fish rearing and commune member family fish rearing has increased. Rural commune and brigade rearing of fish is an important way of producing at low cost, of seeing quick results, of enjoying large benefits, and of enlivening the rural economy. Most commune and brigade water

surfaces are small dammed ponds that are easy to care for, and commune members have experience in rearing fish. Output from such ponds accounts for about 70 percent of gross output of all kinds of water surfaces; increases in output are huge, and potential is very great. In recent years, not only has commune and brigade rearing of fish been on the rise, but production team rearing of fish has become even more widespread. Jiangsu Province has proposed that "every production team rear fish, with each team producing a ton of fish," and production teams in the province rearing fish now number 210,000, which is 65 percent of all production teams in the province. Some have also combined the rearing of fish with the culturing of pearls for even greater economic results. In some communes and brigades located in high mountain counties such as Wuyuan in Jiangxi, Kaihua in Zhejiang, and Xiuning in Anhui, every household has built a small pond outside its door in which it rears fish in mountain spring water. Some produce between 20 and 30 jin of fish in a 3 li less than 2 square meter area. The masses in the lake region of Jiangling County, Hubei Province say that formerly it took "a dou of rice to raise 1 jin of chicken, and money had to be spent to buy fish. Available water was not used, and people were so poor they bound up their bellies." Now, not only has development of the fishing industry solved the problem of "difficulty in getting fish to eat," but it has become a good way to become rich through work.

3. Development of fish rearing in suburbs has increased the supply of live fish and crustaceans from nearby. More than 106 large and medium size cities in the country are rearing fish on more than 4.2 million mu of water surface producing more than 160,000 tons of fish. Wuxi City in Jiangsu Province, which has reared fish for many years, doubled its fish rearing area in 1981 over what it had been in 1978, and increased breeding output 1½ fold. Despite steady increase in urban population, self-sufficiency in freshwater fish rose from an average 9.4 jin to 14.7 jin per capita. Many cities have developed a combination of fish rearing, livestock and poultry raising, and the growing of vegetables in their suburbs to make multiple use of livestock feed and manure. This has both increased fish output and advanced development of other non-staple foods.

4. Benefits from the building of commodity fish bases are on the increase. In recent years, every place has used waste flats and lowlying land to build commodity fish bases that covered a cumulative 600,000 mu in 1981. When fish ponds are concentrated in continuous tracts and specifications are fairly standard, and fish food and drainage and irrigation conditions fairly good, that makes for high yields of fine quality fish. Fishponds built in more than 10 provinces with state investment funds including in Hunan, Hubei, Jiangxi, and Jiangsu cover more than 400,000 mu and had an output of 25,000 tons of fish in 1981, with 10,000 tons of fish products being turned over to the state, more than double the amount for 1980. The amount turned over to the state was greater than all the freshwater fish ever turned over to the state up until the time that the bases were built. Practice has shown that when quality fishponds are built, and firm grip taken on administration and management, large quantities of marketable fish can be provided and earnings increased. Profits in 1981 solely from state commodity fish bases in Hunan, Jiangsu, Jiangxi, and Heilongjiang provinces alone amounted to 6.77 million yuan. Within 1 to 2 years after they were built and went into operation, some well-operated base fish farms produced yields of between 200 and 300 jin per mu of fish. Two

years after going into production, 240-odd mu of fishponds on the Xindian Commune fish farm in extremely cold Jiangbin County in Heilongjiang Province north of the Great Wall produced yields averaging more than 460 jin per mu.

Though the country's freshwater fishing industry has developed substantially, it has not developed rapidly enough, and development has also been very uneven. In some places production of fish fry and techniques have not been able to keep pace. Nearly half of all the water surfaces in the country suitable for the rearing of fish have yet to be used, and yields per unit of area are not high for those that are already being used. China has almost 400 million mu of inland water surfaces so the potential for development of a freshwater fishing industry is extremely great. With effort, increase in freshwater fish output to between 4 and 5 million tons should be entirely possible, the problem being that a great deal of work remains to be done. Every jurisdiction must devote the same serious attention to water surfaces that they give to land, thoroughly change the situation of "fixing responsibility for each mu of unused land, while not caring if 10,000 mu of water remains unused." It is necessary, as well, to implement pertinent policies and to continue to build and perfect various forms of production responsibility systems so that state-owned enterprises, collectives, and individuals will all get ahead together, and so that all positive elements will be rallied. In addition, it is necessary to promote technical promotion work, increase the breeding of superior species, and gradually introduce pellet feeds to upgrade scientific fish rearing standards.

(Xiang Siwei [7309 2448 5633])

Meteorology

Meteorological Activities in 1981

During 1981 the country's meteorological sector took firm grip on implementation of the various tasks centering around readjustment. Quality of meteorological work was further improved; forecasts of major disastrous weather were fairly accurate; and service was rendered smartly promptly earning good marks from all concerned.

As of the end of 1981, meteorological departments in 28 provinces, municipalities, and autonomous regions substantially completed the work of readjusting and restructuring the system by working at both readjustment and reorganization. Once the system had been readjusted, the number of non-professional personnel that had been transferred into it declined, and a number of professional meteorological cadres returned to the profession. Statistics from meteorological bureaus in 17 provinces, municipalities, and autonomous regions, including Qinghai and Gansu, show the transfer out of more than 1,200 meteorological cadres before readjustment of the system, and the return to meteorological units of more than 300 meteorological cadres following readjustment. Additional statistics from meteorological bureaus in 26 provinces, municipalities, and autonomous regions, including Hunan and Anhui, showed a rational readjustment of 1,067 technical cadres. Since it was really difficult for local jurisdictions to place personnel in meteorological units, other departments were able to make better use of about 1,733 non-specialized personnel. As a result of

readjustment, meteorological departments everywhere strengthened leadership teams at a group of observatories and stations, with the result that a new situation in meteorological work was brought about in quite a few places. At the same time, professional management was strengthened, and initial solution found to the contradiction of manpower, financial, and material resources being divorced from work. Some centrally arranged tasks were implemented fairly easily, the quality of work and service improving as a result. A total of 61 meteorological stations that were duplicatory or located at non-representative meteorological sites were eliminated, and 13 duplicatory observatories and stations were merged. In addition, more than 10 experimental stations for agricultural meteorology were revived in a planned way, and some practical problems at grass-roots observatories and stations solved at the same time. Two years of organizational restructuring created favorable conditions for meteorological activities.

The year 1981 was the worst year for natural calamities since the founding of the People's Republic. North China had a severe drought that lasted for a long time and covered a wide area. The summer high water season came early and ended late; torrential rains were frequent, of great intensity, and covered a wide area. Waterlogging in the west and drought in the east was such as has rarely occurred. The Chengdu Central Meteorological Observatory in Sichuan Province, as well as 28 prefectural (or zhou) observatories and county stations successfully forecast the two particularly heavy torrential rains in the Sichuan Basin during mid-July. The Central Observatory also published a forecast for more than 150 millimeters of rainfall in some areas. During August and September, the upper reaches of the Huang He also had continuous downpours, which observatories and stations successfully forecast. They forecast the critical times when flood crests in the upper reaches of the Chang Jiang would pass through the Gezhou Dam, and when flood crests in the upper reaches of the Huang He would pass through Longyang Gorge. Observatories concerned in Sichuan, Hubei, Qinghai, Gansu, Ningxia, and Nei Monggol, as well as the Central Meteorological Observatory worked night and day to watch weather changes closely, analyze them critically, study them carefully, and put together forecasts. The joint meetings held by research personnel and service units concerned produced fairly accurate forecasts, which served as data from which leading departments concerned could make decisions contributing to the safety of the lives and property of people living in the middle and lower reaches of the Chang Jiang and the Huang He. A single forecast from the meteorological observatory concerning no need for flood diversion on the Jing Jiang spared 600,000 mu of fine farmland from inundation and 400,000 people the need to move. This saved the country moving expenses of more than 100 million yuan. Observatories and stations concerned in Guangdong, Guangxi, and Liaoning also made forecasts to some areas on the outbreak of particularly severe torrential rains. The Central Meteorological Observatory, and meteorological observatories in Beijing and Tianjin forecast the great north China drought and the two fairly large rainfalls of late June that helped ameliorate the drought situation. Errors in forecasting typhoons during 1981 were fewer than average. Observatories and stations in coastal areas accurately forecast a 14-force and a 16-force typhoon, rendering rather good service. The Zhejiang Provincial Meteorology Station forecast with substantial accuracy three widespread thunderstorms, hailstorms, and high winds, which permitted marine fishing boats to return safely to harbor.

During 1981, meteorological departments throughout the country developed new services for agriculture. While continuing to serve grain production, they actively provided service for economic diversification as well. In order to meet the new situation that developed following implementation of rural production responsibility systems, all jurisdictions are in the process of exploring new avenues for service. Formerly when Heilongjiang Province had a year of low temperatures and freeze damage, frequently several billion jin of grain would be lost. Now, however, they have suggested the use of zoning to lay out crop patterns, and this suggestion has been adopted. Zunhua County in Hebei Province used zoning results to guide readjustment of crop patterns and restructuring of the farming system, which cut back on the two crops each year area and increased the area growing two crops every 3 years. In 1980, output increased by more than 60 million jin for an all-time high.

During the past year, meteorological departments throughout the country have done a lot of practical work in strengthening management. Most provinces, municipalities, and autonomous regions have now completed surveys involving ground monitoring, data, and agricultural meteorology. They have continued joint defense pilot projects using weather radar, accumulating preliminary experiences in the full use of this kind of fairly advanced technical equipment. Quality of monitoring reports, communications, updating maps, receipt of cloud charts, facsimile transmission and receipt have all improved in varying degrees. Evaluation results published in 1980 by the World Meteorology Organization state that China's reporting rate for meteorological information is 99 percent for the ground, and 98 percent for the atmosphere, both of which are higher than for the United States and the USSR for continued maintenance of China's international reputation for top quality, highly effective meteorological information. Quality of transmission and receipt within China has also improved. Meteorology bureaus in 28 provinces, municipalities, and autonomous regions including Guangdong and Gansu have substantially completed the stage by stage compilation of statistical data for 30 years. Turning data into information has become a routine practice. Meteorological bureaus in 14 provinces, municipalities, and autonomous regions including Shanghai have begun to compile data to make it useful for information purposes, and they have also performed well in experiments preparatory to typhoon experiments to improve their professional quality and advance professional cooperation in meteorology internationally.

During 1981, meteorological departments made new advances in scientific research and education, and applied research received serious attention everywhere. Meteorological departments everywhere took actions to link scientific research and meteorological tasks. The Central Meteorology Bureau's Meteorology Research Academy ran training courses for promotion of techniques in fuzzy mathematics, monitoring of acid rain, atmospheric pollution discharge standards, and soil evaporation. They promoted Tyros-N high resolution weather satellite receiving equipment. Numerous observatories and stations have applied fuzzy mathematics to analysis and forecasting of precipitation and typhoon paths, as well as to zoning of agricultural climates. Statistics from meteorology bureaus in 25 provinces, municipalities, and autonomous regions including Hubei and Anhui show a total of more than 50 training courses of various kinds as having been

run for the training of more than 2,000 enrollees. Training of meteorology cadres from among minority nationalities was also given serious attention.

(Zheng Yanshi [6774 6056 1395])

Rural Finance and Banking

Rural Finance and Banking Work in 1981

Agricultural banks and credit cooperatives at all levels diligently carried into effect CPC Central Committee programs and policies on rural finance and banking work in support to the all-around and rapid development of agriculture. At the same time they intensified credit controls to restrict irrational issuance of credit. During 1981, all kinds of savings deposited increased by 7.89 billion yuan over 1980, and all kinds of loans increased by 7.57 billion yuan over 1980, savings offsetting loans, with savings being 320 million yuan greater than loans. In 1980, loans had been greater than savings. With a reduction in the difference between savings and credit from the previous year, the problem of funds needed for rural development of agriculture, industry, and commerce was solved, circulation of funds was accelerated; economic results rose, and new progress took place in rural finance and banking work.

1. Rural savings deposits showed substantial growth. At the end of 1981, rural savings deposits throughout the country stood at 21.17 billion yuan, up 41.9 percent from 1980 for an all-time high. This provided a fine economic base for banks to amass funds. However, it should be pointed out that fine objective conditions alone without subjective efforts cannot produce ideal results. During 1981, the Agricultural Bank head office emphasized the task of amassing funds, exchanging experiences, and studying actions to be taken. As a result, all jurisdictions took action to develop savings work. Numerous places increased the number of network outlet points and commissioned agents, propagandized savings policies, hired personnel to assist with savings deposits, enhanced services, accommodated the masses, and produced fairly tremendous increases in rural savings deposits on the basis of economic development. This played a positive role in the withdrawal of currency from circulation in reducing pressures on market supplies, and in providing the peasants with conditions for saving their wealth.

2. Corresponding promotion of agricultural production responsibility systems and promotion of rural economic diversification. Up until the time that the farflung rural villages instituted production responsibility systems, banks and credit cooperatives issued loans only to rural people's commune basic accounting units. In the spring of 1980, during the period when production responsibility systems began to be promoted, the Agricultural Bank head office proposed that "production teams that had already broken up on their own accord to become independent accounting units in fact could request loan funds and set up bank accounts; however, loan indebtedness could be for only limited periods of time, and additional reporting and approving procedures would have to be instituted." "In principle, loans to individual commune members could be used only for their daily lives and for development of family sideline occupations. Where contracting to individual households was practiced within the

scope permitted by policies, credit cooperatives could use their discretion in issuing production loans." In response to the nationwide promotion of production responsibility systems, in early 1981 the Agricultural Bank head office acted in the spirit of pertinent directives from the Central Committee to point out clearly the need for flexible actions that suited general methods to local circumstances in choosing recipients for loans and how the loans could be used. It was subsequently ruled that whenever production teams collectively bought means of production and centrally accounted for expenses, the production teams would be responsible for borrowing and repayment. When specialized contracting was done by teams or when teams purchased means of production, with teams accounting for expenses, teams would be responsible for borrowing and repayment. When means of production were purchased by households contracting production or households contracting sole responsibility for task completion, expenses being contracted for by the households themselves, the household would be responsible for loans and their repayment. It was also stipulated that unless households contracting production, or households contracting sole responsibility for task completion, or individual commune members practiced cash management, they could not avail themselves of transfers of accounts in final settlements. Agricultural banks and credit cooperatives everywhere applied these regulations to help commune and brigade collective operations with funds needed for their centrally directed operations, at the same time providing enthusiastic support to specialized contracting teams, contracting households, and individual commune members in development of family sideline occupations. Loans to individual commune members as a percentage of agricultural loans rose from 8.2 percent in 1980 to 20.5 percent in 1981 to meet needs in the spread of production responsibility systems.

In order to carry out in a conscientious way Central Committee programs on active development of economic diversification, to develop commodity production, and to enliven the rural economy, the Agricultural Bank head office promptly notified all provincial, municipal, and autonomous region branch banks to proceed from rural economic realities and to suit general methods to specific circumstances in providing support to economic diversification. At the same time, it would be necessary to support individual commune members in development of family sideline occupations and the planting of private plots, to make the most of collective and individual enthusiasm, and to emphasize attention to helping communes and brigades do economic accounting, conduct cost analysis, improve effectiveness from the use of funds, and solve production, supply, and marketing problems in the course of providing support to development of economic diversification. In 1981, all agricultural banks and credit cooperatives actively applied the spirit of the Central Committee in conscientious implementation of the head office's ruling, issuing a cumulative 16.07 billion yuan in agricultural loans to commune and brigades. Funds used for support of economic diversification rose from 30 percent in 1980 to about 50 percent in 1981 of all loans. Partial statistics from Beijing, Liaoning, and Heilongjiang show issuance of more than 90 million yuan in loans by the Agricultural Bank and credit cooperatives to support hog raising, cattle raising, the raising of sheep and goats, and the raising of poultry by 870,000 households, which produced fine results. Inasmuch as agricultural loans were used for all-around development of agriculture, economic results being emphasized, the loan repayment situation also greatly improved. The 82.2 percent recovery rate for 1980 rose to 92.8 percent in 1981.

3. Impetus to readjustment of commune and brigade enterprises. Agricultural banks and credit cooperatives at all levels have worked together with departments in charge to investigate and study, to categorize enterprises, and to adhere to the principles of selecting the superior ones for support on the basis of their individual merits. Preference has been given to issuance of loans for products that sell readily. For products that enjoy average sales, loans are based on sales. For products with slack sales, loans are based on sales. Loans have been halted for noncompetitive goods that cannot be sold because of inferior quality and high price. A readjustment policy has been instituted that emphasizes support for production of consumer goods for use in daily life and small farm implements needed by peasants. Survey statistics from some areas show about 70 percent of all loans to commune and brigade enterprises as having been used for development of consumer goods production. This represents a sharp rise, while loans used in machine industries have fallen markedly.

All agricultural banks have also adopted some needed controls to insure that equipment loans are used to tap potential, renovate and transform. They have intensified control of equipment loans so that they support expansion of reproduction through intention. As for equipment in newly built projects, they have set up capital construction priorities, have defined the limits of authority for approval of loans, and have strengthened planning to plug loopholes that have permitted ill-advised or duplicatory construction of industrial plants. Loans to commune and brigade enterprises for equipment throughout the country declined from 43.6 percent in 1980 to 8.9 percent.

4. Support for rural commercial sector expansion of procurement and sales and good performance in exchanges of industrial and agricultural goods. During the first half of 1981, agricultural banks at all levels worked together with the rural commercial sector to expand sales of the means of agricultural production and of industrial goods. They expedited shipments elsewhere of agricultural sideline products, and reduced the amount of goods in warehouse inventory. Once the busy season had begun, they promptly supplied funds for the purchase of agricultural sideline products, and supported the organization of industrial goods for dispatch to the countryside, doing a good job in supplying rural markets. This played an active role in enlivening the rural economy and in regulating the flow of currency in rural villages. In addition, the Agricultural Bank also issued medium and short term equipment loans totaling 130 million yuan to help enterprises improve processing, storage, and hauling, providing support to rural development of economic diversification.

(Wu Changji [0124 2052 1015])

Rural Business

New Development of Supply and Marketing Cooperative Activities Nationwide

Supply and marketing cooperatives are a major component of China's socialist rural commerce. They are comprised of grassroots supply and marketing cooperatives plus supply and marketing cooperatives above the county level. Their main tasks are as follows: Responsibility for procurement of agricultural sideline products, for providing raw materials for industrial production, and

for providing goods for the export trade and for domestic markets under guidance of uniform state policies and plans. They organize the supply to communes and brigades and to individual commune members of all kinds of industrial wares used in daily life and agricultural means of production. They help communes and brigades start up economic diversification and commune member family sideline occupations and they promote development of agricultural production. They coordinate the work of departments concerned in managing constituent rural collective businesses, individual small retailers, and rural markets. Grassroots supply and marketing cooperatives follow the principle of "favoring production, accommodating the masses, and conformity with economic accounting," generally setting up independent accounting units inside communes, establishing supply and marketing branches in the centers of several production brigades, and setting up procurement and marketing agencies in production brigades. Today, supply and marketing cooperative network outlets exist everywhere in the country's farflung rural villages. In 1981, there were 1,593,000 supply and marketing cooperative network outlet points nationwide, 1,537,000 or 96.5 percent of which were rural business network outlet points. This was 820,000 or 87.4 percent more than in 1965. Grassroots supply and marketing cooperatives accounted for 35,000 of the rural business network outlet points. Retail stores, branch retail shops, and places selling beverages and providing services under grassroots supply and marketing cooperatives numbered 469,000, and there were 389,000 purchasing and marketing agencies. There were 678,000 cooperative shops, cooperative teams, and registered individual small retailers under control of supply and marketing cooperatives. Up until 1965, more than 70 percent of all production brigade and production brigade outlet points. In recent years, the ranks of the rural business corps have increased and strengthened. At the end of 1981 the country had a total of 4,644,000 business personnel, up 51 percent from 1965. This included 2,592,000 grassroots supply and marketing staff members and workers, 513,000 people working in purchasing and marketing agencies under guidance and control of supply and marketing cooperatives, and 1,424,000 people in cooperative shops, cooperative teams, or acting as registered small retailers. The rural population served by each network outlet point fell from 683 in 1980 to 551 in 1981, and the number of rural residents served per business person likewise fell from 150 to 137. In addition, the number of businesses operated by communes and brigades and individual peasants, and the number of people engaged in providing food and beverages and services has also grown in recent years, while rural business outlet points have spread correspondingly.

Since the Third Plenary Session of the 11th Party Central Committee, as agricultural production has developed, the rural business situation has become very good. A gradual change has come about in the former commodity circulation system of too few channels and numerous links. More channels of circulation have been developed, and both the number of collective businesses and individual small retailers have increased. At the same time, negotiated purchases and negotiated sales of the three categories of agricultural sideline products have been initiated, trade warehouses have been revived, business methods improved, rural commodity flow channels opened up, and the entire rural market system enlivened over what it had been. Acting in accordance with party programs and policies, supply and marketing cooperatives have used procurement and marketing activities to promote the development of agricultural sideline production. They have buttressed procurement of agricultural sideline products

and the supply of industrial goods; rural commodity procurement and marketing has steadily grown, and administration and management of enterprises has gradually improved.

1. Fostering development of agricultural sideline production, and the organization and fostering of commune and brigade as well as individual commune member development of economic diversification, has been a major task for supply and marketing cooperatives. During the past several years, supply and marketing cooperatives everywhere have worked together with other sectors to help communes and brigades adapt general methods to specific circumstances for the development of economic diversification, and they have made substantial advances. During 1981, income from economic diversification in eight provinces and autonomous regions of south China averaged 90 percent growth, and in seven provinces and autonomous regions of north China, the increase was 27.7 percent. Earnings from economic diversification increased steadily as a percentage of gross earnings from agricultural sideline production. In places such as Jiangsu, Zhejiang and Anhui provinces, where the commodity economy is fairly advanced, it is about 60 percent. In order to meet the needs of all sectors of the national economy, more than 1,000 production bases that practice specialized production and have a fairly high rate of marketable goods have been set up over a period of time for production of major agricultural sideline products. These bases provide jute and ambari hemp, silkworm cocoons, tea, moso bamboo,raq lacquer, apples, citrus fruits, black edible fungus, red dates, day lily buds, coir fiber, and rushes. The amount of commodities they provide the state already accounts for between 60 and 70 percent of state purchases. Supply and marketing cooperatives must annually obligate more than 100 million yuan in funds, several tens of thousand tons of steel products, and some chemical fertilizer to foster development of economic diversification. Supply and marketing cooperatives everywhere have also made arrangements for production funds, and non-interest bearing loans to support commune and brigade development of agricultural sideline production. Such funds now amount to a cumulative more than 780 million yuan. The supply and marketing system has also trained more than 160,000 support personnel for economic diversification to help communes, brigades, and individual commune members develop economic diversification.

2. Strengthening of procurement of agricultural sideline products. In accordance with the principle of taking the planned economy as the key link, with market regulation being supplementary, monopoly procurement, assigned procurement and negotiated procurement policies have been further carried out in recent years. The welfare of the country, collectives, and individual commune members has been kept in mind, and the amount of procurement of agricultural sideline products by supply and marketing cooperatives has increased steadily.

In 1981, 23.54 billion yuan worth was procured. This was a 52.9 percent increase over 1976. A look at volume of procurement of several major commodities shows a 46 percent increase for cotton, a 103 percent increase for ramie, a 51.6 percent increase for flue-cured tobacco, a 51 percent increase for mulberry silkworm cocoons, a 26.6 percent increase for tea, a 64 percent increase for raw lacquer, a 40 percent increase for red dates, a 25 percent increase for apples, a 1.2-fold increase for citrus fruits, a 45.7 percent increase for day lilies, and a 2.3-fold increase for black wood fungus. Despite fairly severe natural disasters in some areas, thanks to the implementation of rural

economic policies and all-around development of agricultural production, agricultural sideline product procurement fulfilled 107 percent of annual plan, up 7 percent from the previous year. Procurement of principal agricultural sideline products increased fairly rapidly, but procurement of raw materials for light and textile industries tapered off. Procurement plans for 28 of the 39 Category I and Category II agricultural sideline products controlled by supply and marketing cooperatives were fulfilled or overfulfilled. Procurement of 12 commodities including cotton, ambari hemp, jute, ramie, flue-cured tobacco, tea, wood, sheepskins, goat hides, and citrus fruit reached all-time highs.

3. Good organization of the supply of the means of agricultural production and of movement to the countryside of industrial goods. With the expansion of production, not only did rural commune and brigade as well as individual commune member needs for the means of production increase, but new demands were also constantly posed for greater varieties and different specifications. Supply and marketing cooperatives everywhere strove to achieve equitable distribution, to meet specifications to people's liking, to produce fine quality and to have materials ready in time for farming to assure the needs of commune and production brigade production. In 1981, retail sales of the means of production reached 19.39 billion yuan, up 55.5 percent from 1976 and 2.7 percent more than during the previous year. Great increases occurred in sales of chemical fertilizer, pesticides, sprayers, medium and small size farm tools, and plow oxen.

During the past several years, supply to rural villages of industrial goods in exchange for agricultural sideline products from communes, brigades and peasants has gradually increased. Retail sales of consumer goods handled by supply and marketing cooperatives reached 50.72 million yuan in 1981, up 50 percent from 1976 and up 3.5 percent from the previous year. Comparison of 1981 with 1976 shows tremendous increase in sales of industrial goods to numerous rural villages below the county level. For example, sales of bicycles increased 1.1 fold, sewing machines 1.5 fold, sugar 1.1 fold, cigarettes 46.7 percent, and cotton cloth 2.9 fold. Peasants wanted the supply of more marketable industrial goods.

4. Improvement in enterprise administration and management for steady improvement in economic effectiveness. In recent years, grassroots enterprises at all levels have set up and perfected various kinds of management systems. They have strengthened economic accounting, formulated procurement and marketing tasks, levels of expenditures, goods spoilage levels, profit levels, labor productivity rates, fund turnover, and such assessment indicators, which serve as important data for checking on administration and management results in enterprises. They have improved their plan management and statistical work, drawn up good plans, have done a good job of keeping original records on circulation links, have estimated and inspected, and have instituted quota controls. They have strengthened price controls and rigorously enforced fiscal discipline. They have strengthened management of goods in storage, and have encouraged scientific care of it. They have adopted the most economical and most equitable direction of flow and organized commodity circulation for different individual products, and they have steadily improved goods packaging and packing techniques, improved the utilization of transportation vehicles, and saved on

transportation costs. In 1981, profits reached 3.295 billion yuan, the profits on sales being 3.29 yuan per 100 yuan of product sold, a 0.27 yuan increase over 1976. In 1981, costs of marketing goods were 9.85 yuan per 100 yuan of goods, 1.11 yuan less than in 1976.

(Zhu Weiwen [2612 4885 2429])

Survey of Rural County Fair Trade in 1981

During 1981 numerous places sustained serious flood and drought calamities; nevertheless, the country's agriculture harvested an all-around bumper crop and commune member family sideline occupations also developed very rapidly, providing a material basis for rural country fair trade. The amount of goods going to markets increased, markets thrived, and transactions were lively. Remarkable changes took place in rural country fair trade during 1981.

1. Increase in monetary value of transactions. For the year as a whole, rural country fair transactions totaled 25.3 billion yuan, up 19.5 percent from 1980, and a 2.7-fold increase over 1965. Transactions in 15 major commodities increased. The extent of increase was as follows: 2.6 percent for grain; 18.2 percent increase for fats and oils, 21 percent for meat, poultry, and eggs, 29 percent increase for aquatic products, 18.6 percent increase for vegetables, 18.3 percent increase for fresh fruits and dry fruits, 18.5 percent increase for the agricultural means of production, 46.6 percent for draft animals, 12 percent for domestic livestock, and 62 percent for industrial goods.

2. Country fair prices increased overall, with prices for grain, and for fats and oils remaining stable with some decline. At the end of 1981, the overall country fair price level was 8.9 percent higher than for the same period in 1980. The gap between state-owned business retail sales list prices and collective commodity prices increased 5 percent. Prices of 23 out of 29 major commodities rose. Those for which prices rose most were Chinese cabbage by as much as 30 percent. Prices of not fully mature hogs, and piglets rose 21 and 19 percent respectively; the price of radishes rose 18.5 percent; fresh fish 15 percent, and plow oxen 15 percent. Prices of wheat, corn, edible oil, hemp, rush mats, and carrying poles dropped. The price of corn and hemp dropped most at 10.6 and 9.9 percent respectively. Second was edible oil and rush mats for which prices fell 6 and 4.8 percent. Prices for wheat and carrying poles fell nearly 2 percent. Looked at in terms of region, country fair prices were basically stable or rose somewhat, the rise in most places being less than 5 percent. Generally speaking, price rises were greatest in areas where natural disasters had been severe.

3. The number of market sites increased, and more new markets were built. More than 1,800 rural country fairs were added throughout the country to bring the current total number to 39,700, 2,700 more than in 1965. Cumulative investment in the building of urban and rural country fair markets throughout the country totals 110 million yuan, with 5,500-odd urban and rural country fairs having been built on a 9.7 million square meter area. This includes more than 3,400 markets under awnings covering a 2.18 million square meter area, more than 400 indoor markets covering a 170,000 square meter area, and 330,000 meters

of sales counters. An appreciable number are in rural country fairs. In Guangdong Province, investment in urban and rural country fairs totals 17.76 million yuan, 1.48 times the 1980 investment. New construction includes covered markets with an area of 291,000 square meters. This includes the construction of rural markets over a 249,600 square meter area, or 85 percent of the total.

4. Markets dealing in old machinery have sprung up. The number of individual commune members or commune partnerships that have bought farm machines has increased suddenly. In Anhui Province, more than 200,000 households of commune members or commune members in partnership have bought more than 40,000 hand tractors. In Guangdong Province, individual peasants have bought more than 30,000 farm machines. With the mutual exchange of farm machines among individual commune members or commune member household partnerships, markets dealing in the exchange of old farm machines have sprung up in some rural country fairs. Anhui Province has adroitly guided methods according to circumstances, formally inaugurating such markets in a small number of counties. These have been heartily welcomed by the masses. Practice has shown that permitting communes and brigades as well as commune members to exchange farm machines in markets results in reciprocal redistribution and full use, which helps development of agricultural production.

5. The market in large livestock animals has been unprecedentedly lively. Following tremendous growth in large livestock transactions during 1980, more tremendous growth occurred in 1981, transactions totaling 3.9 billion yuan, up 46.6 percent from 1980. In semi-agricultural semi-pastoral, and in pastoral areas, the increase in large livestock transactions has been manifold. In Qinghai, Nei Monggol, and Ningxia, for example, transactions in large livestock animals increased 93 percent over 1980, a 1.8 fold increase.

6. New readjustment of market control policies. Such readjustments included liberalization of regulations on the circulation of large livestock animals. It was decided that circulation of large livestock animals would not be restricted by administrative regions. In addition to supply and marketing cooperatives making readjustments, industrial and commercial administrative departments approved production brigade purchase of large livestock animals in other administrative regions for sale in their own region. Many places also adapted general methods to local circumstances to liberalize policies regarding individual small retail sales of agricultural sideline products. This meant that so long as industrial and business administrative units approved, individuals could use powered vehicles or boats to transport fresh or live goods prone to spoilage, bulky goods and low priced goods, as well as Category III commodities accumulating in local inventories that the state did not buy. No longer would transportation of such goods be limited to what could be carried by hand, on the shoulders, or on bicycles.

(Commercial Administrative and Management Bureau
Market Management Bureau)

AGRICULTURAL POLICIES AND ADMINISTRATIVE MEASURES

[Original source pp 126-132]

[Text] Specialized Agricultural Technical Contract Agreements System

Today mass fervor is gradually rising among the broad masses of rural cadres and commune members for the study of science and the use of science. How the spread of agricultural science and technology can be linked directly to the peasants' economic welfare has become a new problem in how to rely on science for development of agricultural production. In 1980, the Neijiang Prefecture Agricultural Bureau in Sichuan Province received inspiration from the signing of a technical contract agreement for watermelons by peasants elsewhere with communes and production brigades. With support from the Provincial CPC Committee, they conducted an experiment in the signing of a technical contract agreement between the agriculture technology sector and production teams. This was how various forms of specialized technical contracting agreement systems got started in Neijiang Prefecture. Practice has demonstrated that this technical promotion method of proceeding from voluntary participation for mutual benefit to link together the rights, responsibilities, and benefits of peasants, cadres, and scientific and technical personnel plays an excellent role in promoting agricultural production, and in giving impetus to the development of science and technology.

Within little more than a year's time, the specialized technical contract agreement system has spread fairly rapidly everywhere in the country and has produced rather good results. Sichuan Province got started first. By the end of 1981, about 160 pilot projects had been set up throughout the province, with nearly 30,000 production teams instituting technical contract agreements systems in the contracting of an area about 3 million mu. In Shanxi Province too, 444 production teams in 71 counties instituted agricultural technical contract agreements systems.

The signing of technical contract agreements with peasants today is being done by technical promotion units in agricultural institutes at all levels; by peasant technical personnel and rural "skilled craftsmen" organized by administrative departments (with some administrative units acting as the technical contracting party and becoming responsible for the contracts); by state enterprises and institutions that formerly served agriculture, and by newly organized service companies at all levels such as seed companies and plant protection companies (the seed companies mostly providing superior seed strains and practical skills, and plant protection companies contracting

prevention and control of diseases and insect pests, the companies contracting sole responsibility for everything from pesticides to machines to labor); and by scientific research and technical promotion units, specialized service companies, peasant technical personnel or "skilled craftsmen," and administrative units linked together to sign agreements with production units or individuals. Though the forms of organization of these contracts are diverse, though reward and penalty methods vary, and though techniques and actions vary, they are of two main kinds, either linked to output or not linked to output.

The specific ways in which technical contract agreements systems linked to output work are as follows:

1. On the basis of the full cooperation of scientific and technical departments or personnel with production teams and peasants, and following the principle of voluntary participation for mutual benefit, one party agrees to contract responsibility for one or more crops, or one or more kinds of technical guidance, while the other party agrees to accept the guidance, rewards and penalties being linked to output. Agreements provide specifically the production norms that both parties are to attain, with quotas being set on the basis of degree of increase in output or proportional rewards and penalties being levied on the basis of increase in output. Some production teams in Zhoujiazhuang Commune in Jin County, Hebei Province signed technical contract agreements for cotton with technical personnel whereby the production team agreed to accept technical guidance, to provide requisite water and fertilizer, pesticides and workforces, and to do everything in accordance with technical requirements. If cotton yields for the entire commune (i.e., the portion accepting technical guidance) reached 120, 150, 180, 200, and more than 200 jin per mu, each technical person would receive a bonus of 50, 70, 100, or more than 100 yuan in each respective case. The technical personnel agreed to take responsibility for providing technical guidance, responsibility for formulating a technical plan, and for training technical mainstay cadres to do a good job of providing technical guidance. Should cotton yields be between 100 and 120 jin per mu, there would be neither penalties nor rewards. If yields fell below 100 jin per mu, each technical person would be penalized 1 percent of total wages received during the cotton growing season (April-November), which he would have to turn over to the production team. This is a form of technical contract system that is being widely practiced at the present time.

2. The "four contracts and one reward," or the "four fixes and one reward" technical contract agreements systems in which rewards and penalties are linked to output. After the rights, responsibilities, and benefits of both parties to the agreement have been formulated, technical personnel institute a contract responsibility system linked to output of "four contracts" (or four fixes) with peasant households. In Shiba Commune, Jiashan County, Anhui Province, for example, several peasant technical personnel experienced in producing hybrid rice seeds signed technical contract agreements with 164 commune member households for production of hybrid rice seeds on 190 mu of land. They "contracted techniques, output, quality, and sales, with bonuses for overfulfillment of output and penalties for underfulfillment."

3. Technical contract agreement systems whereby technical promotion or service departments provide producers with new techniques and required materials, with rewards and penalties being linked to output. For example, the Neijiang Prefecture Seed Company in Sichuan Province signed technical contract agreements with production teams whereby the seed company provided superior variety seeds and technical guidance, helped out with part of the chemical fertilizer, and directed prevention and control of diseases and insect pests. The production team strictly carried out all technical procedures, and supplied the labor force, the land, and manure, completing all tasks on time, at specific quality, and in specified amounts, and tendering a bill for all costs of materials expended in the course of technical guidance. The previous year's output was used as a base figure, 15 percent of any amount produced above this figure to be given the seed company as a bonus. If output fell as a result of mistaken guidance provided by the contracting unit, or if seed quality was not high because disease and insect pest prevention and control had not been done on time, the seed company would be responsible for reimbursement of 25 percent of the shortfall.

4. Contract reward and penalty agreement system linked to output with contracting of sole responsibility for technical services. The units contracting sole responsibility for everything from disease and insect pest monitoring and forecasting, pesticides, devices and machines, and labor to effective prevention and control for which they charge a fixed fee (depending on the size of the area of prevention and control). Should a drop in yields result from insect pests, the company is liable for restitution. For example, the plant protection station in Daozhen County, Guizhou Province signed paddy rice disease and insect prevention and control agreements for 347 mu of paddy with 103 commune member households in six production teams at Changbo, Yuqi, and Baqi, charging a prevention and control fee of between 0.50-3.00 yuan per mu. However, should losses from disease and insect pests be more than 5 percent, the company would have to make reimbursement; if lower than 5 percent, it received a bonus.

5. Contractors provide techniques and charge fixed fees, paying penalties for any drop in yields. Commune member Zhang Zaien [1728 0961 1869] in Yungeng Production Brigade, Chao County, Anhui Province, signed contract agreements with 215 commune member households to provide technical guidance in prevention and control of diseases and insect pests on more than 1,000 mu of late paddy. The agreement provided that he would contract the forecasting of diseases and insect pests, contract the time for prevention and control, contract the amounts of pesticide to be used, and give technical guidance. If there was no disease or insect pests, or if no damage resulted from prevention and control, he would receive a technical guidance fee of 0.20 yuan per mu. If yields fell as a result of disease or insect pests, he would be responsible for restitution.

Specific ways in which technical contract agreements systems not linked to output work:

1. Specialized technical service agreement system of guaranteeing and providing fixed things, with rewards and penalties. In Shanghai's Chuansha

County, Zhangjiang Commune Supply and Marketing Cooperative operated a plant protection company jointly with the farm science station, contracting prevention and control of production teams' crop diseases and insect pests. The prevention and control personnel set up a personal responsibility system, assigning fixed numbers of personnel and a fixed number of machines to a fixed area, guaranteeing production teams safety, expenses, and effective prevention and control, the company receiving a bonus for doing an effective job and being responsible for paying an indemnity should losses result.

2. Agreement system for providing specialized technical services at a fixed cost, paying for any losses. Technical service personnel provide technical services and required materials, assure quality of service, collect a fixed fee, and pay for any losses. For example, some commune veterinary stations in Changshou County, Sichuan Province signed technical service agreements with peasant households for chicken plague immunizations and chicken cholera vaccinations, each chicken being inoculated twice each year at a cost of 0.10 yuan, the chickens being guaranteed not to die from plague or cholera for 1 year, the veterinary stations paying for losses should they occur.

3. Technical contract agreement system whereby technical service departments provide techniques and materials, with a division of income to repay investment. This agreement system is a form of contracting for the purpose of conducting scientific experiments. It was used, for example, when the Beijing Botanical Garden of the Botany Institute of the Chinese Academy of Sciences, and the Shijiazhuang Agricultural Modernization Institute signed an agreement with the Luancheng County Science Committee for large area experiments in the growing of Beichun grapes. The Beijing Botanical Garden was responsible for the horticultural design, for the breeding of nursery stocks, and for technical direction. The Agricultural Modernization Institute took responsibility for experiment expenses such as nursery stock fees and 80 percent of expenses for trellis materials. Everything else was the responsibility of the Luancheng County Science Committee, which also provided the land used for the experiments. After income from the grapes was more than 200 yuan per mu, 30 percent of the excess was returned little by little to the Agricultural Modernization Institute to pay for its investment.

Simultaneous with the institution of technical contract agreements systems in various places, other forms of technical promotion were also carried into effect such as technical consulting, technical training courses, and how to seek scientific and technical assistance.

Specialized technical contract agreement systems are a way in which to promote technology in accordance with economic laws, and they play a definite role in spurring development of agricultural production and scientific techniques, and in promoting restructuring of economic systems and changing cadre leadership workstyles. Advantages of technical promotion contract agreement systems are manifested in the following major ways:

1. Marked increase in outputs. Whenever they have acted strictly in accordance with technical requirements, production units or peasant households that have signed technical promotion contract agreements have had increased outputs

and increased earnings provided no irresistible natural calamities occurred. For example, 261 production teams in the Neijiang Prefecture Agricultural Bureau in Sichuan Province contracted the growing of three major crops, and despite a 2,820 mu reduction in size of the growing area from the previous year, grain output increased by more than 4.91 million jin over the previous year. Paddy yields averaged increases of 134 jin per mu, and corn averaged increases of 323 jin per mu.

2. Rather good economic results. Following institution of specialized technical contract agreements systems, not only did outputs increase substantially, but production costs declined. In the Dazhu County Agricultural Bureau in Sichuan province, for example, contracting was done with Hongguang Production Brigade in Jinji Commune to provide technical guidance for 1,396 mu of paddy. As a result, gross output increased 18 percent over 1980, and actual yields average 103.7 jin per mu more than prescribed yields. In addition, production costs declined markedly, the decline averaging 5.78 yuan per mu for a total 8,068.88 yuan reduction in expenses for the production brigade as a whole. In Nancheng Production Brigade, Ningde County, Fujian Province, the plant protection company's costs in prevention and control of paddy diseases and insect pests fell from 5.21 yuan per mu before contracting was instituted to 1.71 yuan, the lowest for any previous year.

3. Impetus of development of agricultural science and technology and application to rural villages. Technical contract agreements systems have heightened mass enthusiasm for the study and use of science. Under guidance of scientific and technical personnel, a peasant technical corps has been founded very rapidly, and this has laid a foundation for the promotion and application of science and technology to production. For example, simultaneous with Neijiang Prefecture Agricultural Bureau's providing technical guidance, a 27-man peasant technical corps was founded within half a year's time. These people mastered quite skillfully key growing techniques for several major crops, and some of them could become independently responsible for a commune's technical guidance work.

In the technical contracting responsibility system linked to output, scientific and technical departments used conditions provided by production units to link closely scientific research with production. This not only produced rapid promotion and quick results, but also produced early and greater results. For example, the Beijing Municipal Academy of Agricultural Sciences Veterinary Medicine Institute signed a technical contract agreement with the Xishatun pig farm at the Changping County Supply and Marketing Cooperative. Within slightly more than 1 year's time, they conducted experiments in the use of hybrid heteroses of 18 hybridizations of lean pork hogs from which results are already visible, the hog farm's earnings having increased. Such experiments required between 2 and 3 years to complete when conducted in institutes, and also required much investment.

4. Acting on the basis of objective laws, and improving leaders workstyles. Economic agreement systems have replaced the old method whereby technical promotion work relied on administrative fiat, and this has changed the past situation in which scientific research departments were unhappy whenever

production units wanted them to work on solutions to technical difficulties, and in which production units gave no serious attention to and would not promote in practice the results that research departments obtained from their research. The technical contract agreement system has impelled leading cadres at all levels to lead agricultural production in accordance with objective economic laws and natural laws. It has changed the situation in which cadres had to push peasants to plant and to harvest to a situation in which cadres can do a solid job of providing technical guidance and organization. This had reduced onesidedness in work and improved leaders workstyles.

The birth of specialized technical contract systems has infused technical promotion with new vitality. During the past year or more, their superiority has been preliminarily demonstrated in the course of technical promotion and agricultural production. They have strengthened scientific research and technical promotion units' links with producers, blazing new trails in how to rely on science and promote results of scientific techniques in agriculture, and how to adapt to various forms of production responsibility systems. With the in-depth and in-breadth advance of agricultural production, inevitably more new forms will have to be created in order to impel agricultural production to develop in the direction of specialization and socialization.

(L1 Fa [0632 3127])

Success Scored in Readjustment of Agricultural Production Structure

After having made readjustments during the 2 previous years, in 1981 all jurisdictions scored preliminary success in further readjustment of the country's agricultural structure by proceeding from the need to develop the country's development of agriculture in accordance with the agricultural programs and policies formulated by the Third Plenary Session of the 11th Party Central Committee.

As a result of the readjustments made during 1979 and 1980, the irrational state of the agricultural production structure was improved; nevertheless, the proportion of grain crops to cash crops, and of the farming industry to forestry, animal husbandry, sideline occupation, and fishing industry remained incompletely coordinated. Thus, the focus of readjustment during 1981 continued to be solution to these two problems in proportion.

By way of readjusting further the structure of agricultural production, in 1981 the party and the state took a series of major political, economic, and legal actions. The CPC Central Committee and the State Council forwarded the State Agricultural Commission "Report on Active Development of Rural Economic Diversification," and issued notices to party organizations and people's governments at all levels in the country proposing an agricultural production policy of "positively no slackening in grain production while actively developing economic diversification," and calling upon people's governments at all levels to plan gradual readjustment of proportional imbalances within the agricultural economy insofar as the balance between supply and demand for grain permitted. They also reiterated and formulated pertinent agricultural policies as follows: The CPC Central Committee and the State Council issued "Decisions on Various Problems in Protecting Forests and Developing Forestry," which

established regulations on problems in eight regards including mountain rights and forest rights, instituted forestry production responsibility systems, and vigorously afforested and propagated forests. The State Council decided to adjust downward by 5 billion jin state grain procurement base figures for major paddy producing areas in Jiangsu, Zhejiang, Anhui, Jiangxi, Hubei, Hunan, Shanghai, and Guangdong so as to help these places in the rational readjustment of the internal proportions of their agriculture, of agricultural crop patterns, and the restructuring of the farming system. The State Council approved and forwarded the National Aquatics Bureau's "Report Soliciting Instructions on Various Problems Relating to Current Aquatic Products Work," which called upon all jurisdictions to genuinely strengthen leadership in the fishing industry, conscientiously solve existing problems, and stir the enthusiasm of all quarters, thereby bringing about greater development of the country's fishing industry. The State Council also approved and forwarded "Urgent Notice on the Current Status of Live Hog Production," from the Ministry of Grain, and "Decisions on Energetic Development of Live Hogs" from the Anhui Provincial People's Government," which called upon all jurisdictions to carry out regular studies to solve problems existing in live hog production, as well as in their commercial marketing, processing, and storing thereby promoting steady development of live hog production and maintenance of a fine situation in pork supplies. The Fourth Session of the Fifth National People's Congress passed decisions for the launching of mass voluntary tree planting campaign. All the foregoing actions played a positive role in readjusting the structure of China's agricultural production.

Full and equitable use of all agricultural resources was a principle followed in the process of readjusting the structure of agricultural production during 1981. China's agriculture has two main basic features namely: first, a fairly small average amount of cultivated land per capita, but numerous mountains and water surfaces, extensive grasslands, and plentiful natural resources; and second, antiquated technical equipment, but an abundant labor force. This situation favors China's building of an agricultural production structure for all-around development of farming, forestry, animal husbandry, sideline occupations, and fisheries. In the readjustment of the agricultural structure, all jurisdictions noted the actual state of local agricultural resources, adhered to all-around development of agriculture in the broad sense, and rational patterns of grain and cash crops and of forestry, animal husbandry, sideline occupation, and fishing industry production in an effort to improve economic results from agricultural production. In some places in south China that had been demonstrated to be unsuitable for the growing of double crops of rice, the area planted to double rice crops was cut back. In north China and in northeast China, attention was directed to changing the undiversified system of continuous grain cropping in favor of a system of rotational cropping of various crops. Southwest China focused on development of forestry and animal husbandry to agriculture as a whole. Places having substantial water surfaces for breeding paid attention to development of an aquatic products breeding industry. All areas universally devoted considerable attention to the planting of trees for afforestation, to increasing the forest cover rate, and particularly to improving the tree survival rate. An overwhelming majority of places maintained a firm grip on grain production, placing the emphasis of structural readjustment on scientific farming to increase yields per unit of

area. In addition, they devoted attention to full use of agricultural natural resources that had not yet been put to use, to vigorous expansion of the planting of varieties and categories that required little or no additional consumption of grain or use of land to replace some grains, and to provide industry with correspondingly more raw materials. In order to make full use of agricultural resources, provide society with more agricultural sideline products, and satisfy the various consumption needs of urban and rural people, all jurisdictions adopted effective policy measures to encourage and support commune member development of family sideline occupation, planting of trees, raising of livestock, poultry, and fish, and other economically diversified projects.

As a result of further readjustment of the agricultural economy in 1981, the irrational structure of China's agricultural production continued to improve, and this improvement was manifested mainly in the following two ways:

First, simultaneous with continued increase in grain output, cash crop production developed fairly rapidly, and the internal structure of the farming industry became markedly more rational. In 1981 gross national grain output reached 325.02 million tons, a 6.6 percent increase over 1978 before readjustment. Gross output of cotton reached 2,968,000 tons, 37.8 percent more than before readjustment in 1978. Gross output of oil bearing crops reached 10,205,000 tons, up 95.6 percent from 1978. Sugar crop gross output reached 36,028,000 tons, up 51.3 percent from 1978. Gross output of tea, silkworm cocoons, and jute and ambari hemp were also up by 28, 36.4, and 15.8 percent respectively from 1978. Speed of development of major cash crops was markedly faster than speed of development of grain, with the result that the long emphasis on grain production to the neglect and detriment of cash crop production was fundamentally changed. Both the area planted to cash crops and the output value of cash crops tended to rise markedly in proportion to the farming industry as a whole. The equitable readjustment of the proportions of grain and cash crops brought about fairly rapid sustained development of production throughout the farming industry. Continued growth of the output value of the farming industry since 1978, when it was 98.86 billion yuan in terms of constant 1970 prices, reached 110.31 billion yuan in 1981, for an 11.5 percent increase within 3 years or an average 3.7 percent increase each year. This was greater than the average speed of increase in output value of the farming industry from 1952 to 1978.

Second, simultaneous with sustained growth of the farming industry, forestry, animal husbandry, sideline occupations, and the fishing industry developed fairly rapidly as well, with the result that the position of forestry, animal husbandry, sideline occupations, and the fishing industry rose in the overall agricultural economy. Figured in terms of constant 1970 prices, the national output value of forestry, animal husbandry, sideline occupations, and the fishing industry reached 61.66 million yuan in 1981, a 31.4 percent increase from the pre-readjustment year of 1978 for an average annual 9.5 percent increase. This was faster than the speed of growth of output value in the farming industry for the same period. Accompanying fairly rapid development of forestry, animal husbandry, sideline occupations, and the fishing industry was a corresponding change in the structure of the country's gross output value

of agriculture from 32.2 percent in 1978 to 35.9 percent in 1981. Output value of the farming industry correspondingly declined in proportion from 67.8 percent in 1978 to 64.1 percent in 1981. If brigade operated industries are eliminated from the sideline occupation figures, the absolute output value figure for forestry, animal husbandry, sideline occupations, and the fishing industry increased from 30.01 billion yuan in 1978 to 36.03 billion yuan in 1981, a total increase of 20.1 percent in 3 years, or an average 6.3 percent increase per year in continued maintenance of a fairly fast speed of growth. Proportional output value of forestry, animal husbandry, sideline occupations, and the fishing industry following elimination of brigade operated industries was 20.9 percent in 1981, which was still slightly higher than the 20.5 percent of 1978. In terms of 1980 constant prices, output value of the nation's farming industry was 148.9 billion yuan, or 64.4 percent of that year's gross output value of agriculture, which was 231.2 billion yuan. Output value of forestry, animal husbandry, sideline occupations and the fishing industry was 82.33 billion yuan, which was 35.6 percent of the gross output value of agriculture for the year. (After eliminating brigade operated industry factors, the output value of forestry, animal husbandry, sideline occupations, and the fishing industry was 54.6 billion yuan, which was 23.6 percent of the gross output value of agriculture for the year.) In national terms, the long-term tendency to overemphasize farming to the neglect and detriment of forestry, animal husbandry, sideline occupations, and the fishing industry has been very greatly changed. In many places, a trend toward burgeoning of forestry, animal husbandry, sideline occupations, and the fishing industry has begun to occur. As a result of the all-around development of farming, forestry, animal husbandry, sideline occupations, and the fishing industry in recent years, a general acceleration has taken place in the growth of agricultural production. At constant 1970 prices, the gross output value of the nation's agriculture in 1981 was 172 billion yuan versus 145.9 billion yuan in 1978 for a 17.9 percent growth and an average annual 5.6 percent increase over the 3-year period. This was markedly faster than the average annual 3.2 percent speed of growth between 1952 and 1978. If brigade-operated industry factors are eliminated, the 3-year output value of farming, forestry, animal husbandry, sideline occupations, and the fishing industry increased from 128.87 billion yuan to 146.23 billion yuan, an increase totaling 13.5 percent or an average annual 4.3 percent growth. This was also markedly faster than the average 2.8 percent annual growth between 1952 and 1978.

Preliminary successes in readjustment of the structure of agricultural production have meant an upturn in the average per capita amount of the country's agricultural sideline products, of commodity rates, and of peasant income. Comparison of 1981 with 1978 shows that despite a 38.13 million increase in total population, not only was there no decline in the average per capita amount of major agricultural sideline products, but rather varying degrees of increase. In 1981, grain supplies averaged 657 jin per capita; cotton 6 jin; oil-bearing crops 20.6 jin; pork, beef, mutton, and goat 25.5 jin; versus 636 jin, 4.5 jin, 10.9 jin, and 17 jin respectively in 1978 for respective 2.6, 33.3, 88.1, and 48.8 percent increases. The speed of increase in the average per capita amount of cotton, oil-bearing crops, pork, beef, mutton, and goat was greater than for grain. Development of farming, forestry, animal husbandry, sideline occupations, and the fishing industry caused a rise in the amounts of

marketable agricultural sideline products and the commodity rate. Figured in comparable price terms, total procurement of agricultural sideline products by state businesses rose from 46 billion yuan in 1978 to 72.2 billion yuan in 1981, an increase totaling 57 percent in 3 years. During the same period, state purchases of agricultural sideline products as a proportion of gross output value of agriculture rose from 31.5 to 42 percent, and the rate of growth of marketable amounts of cash crops such as cotton, oil-bearing crops, and flue-cured tobacco was particularly great. Readjustment of the agricultural production pattern was also an important element in the trend toward increase in peasant income. In 1981, rural commune members throughout the country averaged earnings of more than 100 yuan per capita from distributions by collectives, versus 74.70 yuan in 1978, or more than one-third again as much. In 1981, production brigades with earnings of more than 300 yuan per capita from distributions by collectives number more than 10,000. One important reason the level of earnings from collective distributions was so high in these production brigades was equitable readjustment of the structure of agricultural production. If economically diversified items produced by family sideline occupations are included, peasant incomes increased even more during the past 3 years. Income derived from commune member family sideline occupations is generally about half income from collective distributions. In peasant households where economic diversification has developed fairly rapidly, income from family sideline occupations is equal to or more than income from distributions by collectives.

The preliminary successes achieved through readjustment of the structure of the nation's agriculture have by no means completely altered the irrational structure of the nation's agricultural production structure. Despite readjustment of the internal structure of the farming industry, the proportion of forestry, animal husbandry, sideline occupations, and the fishing industry is still overly low. The overall structure of farming, forestry, animal husbandry, sideline occupations, and the fishing industry is very much out of kilter with the country's agricultural resources (particularly its natural resources). In order to assure long-term, protracted, coordinated development of all agricultural production and a benign cycle in the ecosystem, for many years to come continued readjustments will be necessary. In the course of readjustment during the next several years, attention must be devoted to stabilizing the area planted to grain. In 1981, the national area sown to grain was 100 million mu less than in 1978. This was a necessary readjustment. As a result of the readjustment, the ratio of area planted to grain and to cash crops is now substantially equitable. However, since China has a large population and a large need for grain, and since importation of grain from abroad is limited by various factors, steady growth of the nation's gross output of grain must be maintained, and the average amount of grain per capita should increase year by year. This requires, in turn, that the grain field area be assured; thus, the grain growing area must be kept relatively stable, and the area planted to cash crops such as rapeseed, flue-cured tobacco, jute, and ambari hemp required for markets and for which processing capabilities are already saturated should not be blindly expanded. Expansion of various products within the farming industry must rely primarily on increases in yields per unit of area. At the same time, full and equitable use should be made of natural resources that are not yet being very well used.

(Li Bingkun [2621 3521 0981])

Strengthening of Land Management and Effective Protection of Cultivated Land

Soil is a limited natural resource, and it is a necessary movable foundation for the building of all production and for the peoples' lives. It is the most fundamental means of production in agriculture. Though China is a vast land; it also has a teeming population, so China averages only about one-third world figures for average per capita amount of land area and cultivated land area. Amount of cultivated land area is less than 2 mu per capita, or only 14 percent that of the USSR and the United States. Furthermore, potentially reclaimable land is scant; thus the amount of land available for agriculture, and particularly existing cultivated land, is extremely precious.

As a result of the influence of "leftist" thinking in the economic field, there has been insufficient appreciation for a long period of time of the importance of the need to treasure the soil and use it rationally. This plus lack of scientific soil management has led to the existence of very many problems in soil management.

1. Arbitrary grabbing off and reckless use of cultivated land. Incomplete statistics show that as a result of the taking of land for various construction products and its removal from use in consequence of disasters, during the 20-year period between 1957 and 1977, China's cultivated land area was reduced by more than 400 million mu for an average decline of more than 20 million mu annually. This is equal to the entire cultivated land area of Fujian Province. In addition, the land used by the state or collectives for construction or for the building of houses by commune members was, by and large, good farmland surrounding cities, towns, and villages, and good vegetable growing or flat land. For example, between 1961 and 1980, Xuxinhuang Commune in Tong County, Beijing Municipality, land use for construction of rural houses increased virtually several times over, with an average of more than 200 mu per year being encroached upon. In Zhejiang, Shanghai, Jiangsu, Hunan, and Guangdong, waste of land for the building of rural housing was rather common, and in some places land was bought and sold, covertly bought and sold, or rented illegally.

2. Chaos about land rights and frequent quarrels over land. The state has yet to formulate a land law to protect and consolidate the socialist land ownership system, nor has it set up corresponding land management institutions. As a result, numerous places care little for land rights and arbitrarily take over land, with the result that quarrels over land occur.

3. Irrational use of land and serious destruction of resources. As a result of reckless clearing of land and denudation of northwest China's loess highlands, the amount of silt carried into the Huang He in recent years has increased to more than 1.6 billion tons annually. Authorities concerned have estimated China's current erosion area to be 1.5 million square kilometers.

In addition, soil pollution is also a very conspicuous problem. Incomplete statistics show the discharge of more than 50 million tons of waste water daily throughout the country, about 90 percent of it going into rivers, lakes, and the oceans. In Beijing Municipality, more than 1.5 million mu of soil has already been polluted.

The foregoing shows that strengthening of land management is an extremely urgent and important task.

(1) First, attention must be given to land legislation. Land legislation is the basis for land management, and it provides a code that can be followed to manage land. Both the party and the state are extremely attentive to land legislation work. During the past more than 3 years, following widespread investigation and research and the seeking of views with the help and support of units concerned in every province, municipality, and autonomous region, or scientific workers, and of legal experts, the Ministry of Agriculture has written a draft "Land Law." Until such time as a national "Land Law" has been promulgated, each province, municipality, and autonomous region will have to decide and promulgate land regulations for its own province, municipality, or autonomous region on the basis of specific, individual situations, and supply rational data for earliest possible land management work. Once the national "Land Law" has been promulgated, all jurisdictions can institute detailed rules and regulations on the basis of this "Land Law."

(2) Establishment of land management organizations staffed with specialized personnel to provide requisite conditions for land control. Promulgation and institution of land regulations is an imperative objective requirement. Good management and good use of land should be the function of agricultural departments at all levels. Thus, all levels of government should charge agricultural departments with taking a firm grip on the establishment and perfection of land management organizations, with adding more staff, and with genuinely strengthening leadership so that even in advance of the promulgation of land laws, the actual work of land management can get underway. The main tasks in land management work are as follows: Responsibility for prospecting and surveying land resources; shouldering the job of examining and authenticating land rights; handling land registration and issuance of land certificates; overall planning of land use; examining and verifying, and transferring land to be requisitioned for state construction and land to be taken over for construction by collectives and the building of commune member houses; organization and promotion of propaganda, indoctrination, and scientific research relating to land, and bearing responsibility for investigation and study of land work programs and policies plus the task of drafting and drawing up some specific laws and carrying out rules and regulations.

(3) Strengthening of management of land take-overs for the building of rural housing. In order to solve the problems of take-overs of cultivated land to build rural housing, the State Council has issued "Urgent Notice on Halting Take-Overs of Cultivated Land for the Building of Rural Housing." This notice requires leaders at all levels to give a high degree of serious consideration to this problem, and it requires the broad masses of people and cadres to conduct propaganda and education to make clear the important strategic significance of conservation in land use and treasuring the land to stop just any unit or individual from arbitrarily taking over and using cultivated land in any way they see fit. Use of land for the building of rural housing requires unified planning, a rational pattern, and conservation of the use of land. Full use must be made of slopes, wastelands, and abandoned house sites in building housing. Owing to natural restrictions, some brigades and production teams will really have to allocate cultivated land for the building of houses, but

a strict procedure of examination and approval should be used in such cases, and only the absolute minimum amount of cultivated land used.

Land in rural communes and brigades is collectively owned and commune members have only the right to use building sites, private plots (or privately retained mountains), and contracted land assigned to them. Thus they may not buy or sell it, nor take it upon themselves to transfer it. Neither may they build houses, make graves, carry out mining, or fire bricks and tiles on contracted land or private plots. Unless specifically authorized, any take-overs of land to build houses must be dealt with severely. Land that has been taken over by commune and brigade enterprises but is not being used must be ordered returned.

(4) Solution to the problem of military units, farms, mines, and commune and brigade enterprises using land for production of agricultural sideline products. For many years the armed forces have made achievements in agricultural sideline production, and this is necessary. Where conflicts with rural jurisdictions exist about the land, each jurisdiction's leaders should do a conscientious job of ideological education of cadres and masses. They should proceed from realities, take account of both the military and civilians, practice mutual understanding and compromise, and unite for benefit in full discussion with military units for a satisfactory solution. Commune and brigade enterprises' take-overs of land must be in accordance with regulations. Development of commune and brigade enterprises must be linked to the building of small market towns, to unified planning, to a rational pattern, and to appropriate density. Newly established enterprises should make full use of old bits and pieces of land in market towns and do everything possible to avoid taking over cultivated land or using good land. Use of land for capital construction must be strictly controlled. Provincial, municipal and autonomous region commune and brigade enterprises bureaus must limit take-overs of land for capital construction for different trades and industries, and on the basis of scale of production. Reports requesting permits must be prepared in accordance with regulations on limits of authority for examinations and approvals, and appropriate compensation paid for the land. If too much land is taken over, or if land is taken over and not used, it is to be returned to production teams. Commune and brigade enterprises should strengthen labor protection and carry out production safely. They should actively control pollution, and where enterprises seriously damage resources, pollute the environment and do not have safe production conditions, improvements must be made within a limited period of time; otherwise, the enterprises should be closed, suspended, merged, or retooled.

In cases where entrepreneurial units in forest areas, mining areas, and oil fields, or industrial and transportation departments located far from urban areas engage in sideline production, the relationship between industry and agriculture must be considered first. There can be no fights with the citizenry over land, and peasant rights must be looked after. General methods must be suited to local circumstances in the development of economic diversification. In principle, land required for agricultural production should be one's own responsibility, wasteland being made into cropland. In cases where enterprises have themselves reclaimed wastelands, use rights revert to the enterprises concerned. However, it is forbidden to buy or sell, to lease, or to requisition

land. When enterprises require land for new agricultural sideline production, it is recommended that government above the county level lend support, and that they assign a certain amount of state-owned barren mountains, wasteland, or water surfaces in accordance with actual circumstances and the principle of land conservation. County people's governments should also have clear regulations about permissions required, and they should stabilize use rights. All industrial and mining enterprises should devote serious attention to and do a good job of making industrial areas green.

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Animal Husbandry

[Original source pp 140-142]

[Text] Trends in Development of Animal Husbandry

(1) Launching of the promotion and popularization of livestock science and technology and strengthening of management of livestock economic plans. With implementation of systems of livestock production responsibility systems and development of commune member family livestock raising, peasant and herdsman enthusiasm for consciously delving into livestock science and technology, their need for selecting livestock and poultry species, for blending hay and feed, and for preventive immunizations have becoming increasingly urgent. This has created unprecedented conditions for the promotion and popularization of livestock science and technology. All sorts of training courses on livestock, grasslands, breeding of livestock, veterinary medicine, livestock machines, and financial accounting offered by various departments at all levels have been everywhere enthusiastically received by cadres and the masses. A 1981 survey showed 8,645 enrollments in 255 training courses run by 20 provinces, municipalities, and autonomous regions surveying provincial (or autonomous region), prefecture (or zhou and league), and country (or banner) grasslands, pasture grass and ranges. Various training programs run by the Livestock Bureau of the Ministry of Agriculture or by departments concerned charged with doing so numbered nearly 20. As a result of training or arduous efforts made in practice, a number of skilled hands or "indigenous experts" in scientific raising of livestock and poultry have appeared among cadres and the masses in some rural villages and pastoral areas.

Thanks to the centralized planning done by the state, peasants and herdsmen have gained greater self-determination in production, and the former situation of sole pursuit of numbers of livestock in inventory in livestock industry production with no emphasis on increasing final products in violation of scientific laws has been reversed. The rate of removal of hogs from inventory has risen and, by and large, the weight of slaughtered animals has been right and gross output of meat has increased. During the past 3 years, the number of hogs in inventory has stabilized around 300 million head, while the number of fattened hogs removed from inventory increased from 170 million head in 1978 to nearly 200 million head. Average weight of live hogs purchased has risen from the overly low 75 kilograms per head to 90 kilograms per head. For an annual 5 kilogram increase to reach a sensible butchering rate of 90 to 100

kilograms. Pork output has risen 47.2 percent during the past 3 years, i.e., 4.04 million tons. National urban and rural pork consumption has risen from 15.4 jin per capita in 1978 to 22.2 jin in 1981, for a 44 percent rate of increase and extremely marked economic benefits.

(2) Development of the growing of grass to raise livestock. In recent years, leading comrades in the central government have many times issued instructions on energetic planting of grass to raise livestock. With readjustment of the national economy, and urgent popular demand for increases in livestock products such as meat, milk, wool and hair, and hides, enthusiasm among the broad masses of peasants and herdsmen of all nationalities for development of herbivorous livestock has risen increasingly, and leaders at all levels have gradually become alert to the need to protect, use, and build range resources.

As of the present time, 563 counties in the country have already completed a survey of their range resources. In some provinces and autonomous regions of south China, a number of continuous tract grassy mountains and slopes of economic utility have been brought to notice. In the southwestern part of Xinning County in Hunan Province alone, a natural range 100 kilometers in length and covering a 600,000 mu area was discovered. In north China, 1.96 million mu of continuous grassy mountains and slopes were found in Wutai County, Shanxi Province. This was both a Mecca for tourism and a fine natural pasture. China has plentiful pasture grass resources, data showing more than 10,000 varieties. These resources will provide a scientific basis for future zoning of farming and animal husbandry, and for development of grassland animal husbandry.

A more than 32 million mu area in pastoral and farming areas has either been planted to grass or existing ranges improved, with 60 million mu of range being enclosed. Most provinces and autonomous regions are growing grasses selectively, and they have already found some local varieties that are fairly suitable.

By way of exploring experiences with different kinds of grasslands and grassy slope areas in carrying out a Chinese style building of modern ranges, during the past several years the Livestock Bureau of the Ministry of Agriculture has worked together with more than 10 provinces and autonomous regions in planning 18 pilot projects for the building of grasslands and livestock industry modernization, and more than 40 pilot projects for the aerial sowing of pasture grasses. These pilot projects included a total of 710 communes, farms, and brigades, and now the building of most pilot projects are on a preliminary scale, and have developed a definite production potential. They have become to be effective, and have played a definite role as models and in giving impetus to areas. The composite pilot project for the grasslands animal husbandry industry at Xianghuang Banner, Nei Monggol in the pastoral area of north China was one example. In 1981 after building an enclosed 270,000 mu range as a key project, hay output was 2.5 fold more than from natural grass, each mu of range contributing 1.18 yuan to the state. Within 5 years, it will be possible to amortize the investment (of somewhat more than 5 yuan per mu), and to solve the problem of finding hay during 5 winter months for 41 percent of the livestock in the whole banner.

China has imported foreign techniques and funds to set up three model pasture-lands in Wengniute Banner, Nei Monggol; in Chengbu County, Hunan; and in Qianjiang County, Guangxi. Fairly remarkable results have already been achieved in improving ranges and in upgrading production capacity. This work included the hiring of Australian experts to cooperate in establishing the Nanshan Demonstration Pasture in Chengbu County, Hunan. Over a period of 3 years, by enclosing range or planting grass it has been possible for 15 mu of land to support one steer or one milk cow, and milk yields have doubled.

(3) Development of livestock product processing industries and operation of integrated livestock, industrial, and commercial enterprises. In Guanzhong Prefecture, Shaanxi Province, the livestock, industrial, and commercial sectors jointly coordinated development of milk goat production and a dairy industry, and supply of products to markets was welcomed by producers and consumers alike. The prefecture has a total of 600,000 milk goats of which 415,000 are ewes, the fresh milk from which are a part of procurement plans for 50 dairies. In 1981, 54,111 tons of fresh milk were purchased and 6,404 tons of dairy products produced including 6,051 tons of powdered milk. The dairy products industry has an output value of 25.83 million yuan, has paid the state 2.25 million yuan in tax revenues, and has realized profits of 2.72 million yuan.

Experience in such closely coordinated development of the livestock, industrial, and commercial sectors has become an indispensable condition for development of the country's endeavors with goats. Today 64 base counties in 11 provinces have 1.46 million goats and 85 milk product processing plants. An additional more than 20 are in the process of being built.

Active development of poultry egg production by the Huadu Integrated Livestock, Industrial, and Commercial Company in Beijing. In 1981, this company produced 17.35 million jin of fresh eggs, including 16.28 million jin of marketable eggs. This was 29.1 percent of total procurement throughout the city. Production of 2.7 million female chicks played a major role in supporting commune and brigade as well as specialized household chicken raising. The company signed an agreement with Guangzhou to provide 500 tons of ducks, and arranged for the production of 240,000 force-fed ducks, which saved 16 depressed duck farms. Profits for the whole enterprise for the year amounted to 5.7 million yuan, 2.4 million yuan of which was withheld for depreciation. At four laying farms, each chicken averaged 237.8 eggs per year, each egg weighing 55 grams, and the ratio of eggs to feed being 1:2.95, a fairly high level in China.

At Ruorgai, in Sichuan Province's pastoral region, and at the Fuyun Integrated Livestock, Industrial and Commercial Enterprise in Xinjiang, production developed in an all-around way, and the commodity rate gradually increased. In 1981, the Ruorgai Integrated Livestock, Industrial, and Commercial Enterprise completely fulfilled procurement and allocation plans for livestock products for the year, and enterprise profits amounted to 3.04 million yuan. Profits for the Fuyun Integrated Livestock, Industrial, and Commercial Enterprise amounted to 600,000 yuan.

The Yuncheng County United Foreign Trade Company in Shanxi Province is a joint venture in which shares are owned by the country livestock bureau, the foreign trade bureau, and communes and brigades. It was founded in December 1980 and has a large livestock abattoir, a mutton processing plant, and a hide plant. Mostly it deals in the export of frozen meat and in animal byproducts processing to make items such as leather shoes, fur clothing, and soap. During its first year of operation, it slaughtered 23,000 sheep, and 4,416 beef cattle or selected out livestock. It processed 400 tons of frozen meat for export, earning the country a net profit of 341,000 yuan in addition to foreign exchange earnings. It is also preparing to expand operations.

(4) Institution of multi-channel dealings. In order to handle properly relations between production and marketing and enliven the livestock industry economy, many places have used numerous effective means of developing the livestock industry. They have used multiple channels for livestock and livestock products, and have reduced the number of business links. After long experience, some have made breakthroughs during the last 1 or 2 years, expanding and spreading. Some have begun to set up pilot projects, which have also produced remarkable results.

Of all the many channels for dealing in livestock products, the most enduring one has been direct contact between those who process wool or goat hair and those who produce it. This has meant that wool or goat hair textile plants have dealt directly with units producing wool or goat hair. Ever since the founding of a pilot project in 1964, this method has been in effect for many years. Its advantages are as follows: First, reduction in the number of intervening commercial links. In addition to reducing taxes to be paid, this method also saves a number of business circulation expenses, and is in keeping with the principle of benefits for both herdsmen and industries. Second, it achieves the goal of a premium price for premium wool, and premier use of premium wool, which helps raise wool quality. Today 72 large livestock farms and breeding farms, and people's communes throughout the country annually send more than 10,000 tons of graded and packaged wool or goat hair to industrial plants after it has been inspected and accepted. This practice has been welcomed everywhere. The Xinjiang Autonomous Region is the country's major area for production of fine wool and improved wool, its output accounting for one-third the national total. Twelve state-owned livestock farms and breeding farms, and one people's commune are test operating livestock farms for direct shipment of wool to industrial plants. These have produced outstanding economic results. First, they have saved procurement fees of several intervening links, which accounted for 32 percent of the price of wool. Even when the 10 percent paid in taxes is deducted, a 22 percent saving was realized. Second, after wool to be sent directly from farm to factory has been graded at the farm, packaged, inspected and accepted, it is sent directly to the plant avoiding numerous intermediary links and avoiding the mixing of wools of different quality. Plants everywhere report the following: wool sent directly from farm to factory is of consistent quality. It is of even fineness, good length, fine color, dry, and contains little extraneous matter. It may be woven into woolen fabrics and high quality products for sale abroad. Third, since institution of direct dealings between farm and factory, steady attention has been directed to sheep breeding. Fourth, reduction in extraneous contaminant in the wool makes for improved industrial production efficiency.

Experimental comparisons made by wool textile plants in Shaanxi show a 50 percent reduction in vegetable matter in directly shipped wool, and an 80 percent reduction in coarse wool. Plant wool manufacturing efficiency has increased two to three fold. At the Yili Wool Textile Plant, each person can sort an average of 300 kilograms of wool per day when the wool is sent directly from livestock farms, but when it is not, each person can sort only 150 kilograms per day. Direct shipment of wool to plants from farm means the wool can be moved into plants promptly, and this helps in the allocation of various raw materials and rational use of materials, plus an 8 percent decline in cost of their movement into plants.

Because of the marked economic effectiveness of direct shipment of wool from farms to plants, departments concerned are in the process of expanding promotion of this experience in the Xinjiang Autonomous Region. This has provided impetus to development of wool production and the wool textile industry.

Veterinary medicine stations and dealings by some agricultural entrepreneurial units in the procurement and marketing of live hogs has been a new development during the last 1 or 2 years in live hog producing provinces and autonomous regions. In some plains and hill regions that have generally been fat hog producing areas, live hog production has developed very rapidly during the past 1 or 2 years. Once the busy season for removal of fattened hogs from inventory arrives, the peasants have large numbers of fattened hogs, but the state's ability to purchase them is limited. So the peasants cannot sell off their fattened hogs, and they scurry around seeking help in finding markets. "Difficulty in selling hogs" develops. This seriously dampens peasant enthusiasm for developing live hog production. What is the solution? Some commune livestock veterinary stations, farm science posts, and commune and brigade enterprises in suburban Chengdu and Chongqing shared the peasants' concerns. They operated abattoirs that took care of either slaughtering or marketing, or directly handled procurement and marketing. This was a fine method for opening diverse channels, the country, collectives, and commune members all benefiting, and for actively expanding outlets for pork. The veterinary station at Jiguanshi Commune in Chongqing, Sichuan Province; the Zhuhao Commune Farm Machinery Station in Jintang County, Chengdu; the Damian Commune Farm Science Station in Longquan Prefecture; and No 13 Brigade at Hongshi Commune, Shuangliu County were first to operate such service points and stations. Subsequently, all jurisdictions in Sichuan Province began to run such service trades.

New forms of multi-channel dealings in the production, procurement, and marketing of live hogs has forced the livestock production sector to undertake a restructuring of the system as well. The Sichuan Provincial Livestock Bureau has established an entrepreneurial Provincial Animal Husbandry Service Company, which has mostly marketed pork at pilot projects in Chengdu and Chongqing. Livestock departments not only want to be in charge of production, but also want to have a part in the sale of livestock products, providing services in the sale of livestock products, and this is a fine trend.

Results have been remarkable in multi-channel dealings in live hog production, procurement, and marketing. Statistics from departments concerned in Sichuan

Province show 4.38 million more fattened hogs as having been removed from inventory in 1980 versus 1979. After deducting increased sales of 580,000 head by state-owned food departments, the remaining 3.8 million head were marketed through expanded multiple channels. Multi-channel dealings provide convenient conditions for improving the peasants' diet.

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State Farms and Land Reclamation

[Original source pp 145-149]

[Text] Readjustment of the Production Structure of State-Owned Farms and Development of Economic Diversification

(1) Benefits from development of economic diversification. In 1981, simultaneous with the eradication of erroneous "leftist" influence, implementation of pertinent economic policies and establishment of production responsibility systems, the state farm and land reclamation system assiduously carried out Central Committee policies on readjustment, reorganization, restructuring, and upgrading, making readjustment of the production structure and development of economic diversification a major basic task. Farms within all reclamation areas pursued a program of "taking industry as the key link in economic diversification" to carry out a general readjustment of the production structure and crop patterns, thereby further changing the tendency of the past to place sole emphasis on grain or certain farm crops and to neglect other crops and the economic diversification of forestry, animal husbandry, sideline occupations, fisheries, and industry. They sensibly changed to the growing of other crops on cultivated land that had not been suited to the growing of grain in the first place, thereby increasing correspondingly the area planted to cash crops. They closed, suspended, merged, or converted industrial enterprises that had been ill-advisedly rushed into, and which were improperly located causing long-term losses. They developed processing industries devoted primarily to the processing of agricultural products, and set up some commercial network outlets. Some farms and pastures even allowed cultivated land not suited to the growing of crops to revert to grass, the grass being used to develop livestock and for an expansion of the afforested area. As a result of the foregoing actions, in 1981 output of cash crops and of forestry, animal husbandry, fisheries, industry, and sideline occupations increased in varying degrees while grain output fell in major grain producing areas as a result of serious natural calamities.

Advantages gained from readjustment of the production structure and development of economic diversification were as follows:

1. Agriculture, forestry, animal husbandry, sideline occupations, fisheries, and industry became mutually reinforcing and mutually advancing. In 1981, farms sustained serious drought, waterlogging, wind, and hailstorm calamities,

with the Heilongjiang reclamation area sustaining particularly serious flooding and waterlogging over a 24.12 million mu area, which seriously hurt both gross output and output value of grain throughout the state farm and land reclamation system. Output value of agriculture for the nation's state farm and land reclamation system fell 7.0 percent from 1980. Nevertheless, as a result of readjustment of the state farm and land reclamation system, economic diversification developed to a certain extent, with the output value of industry increasing 10 percent. Thus, losses from reduced harvests of farm crops were offset, with the result that gross output value for the state farm and land reclamation system remained at the 1980 level, and more than 200 million yuan in profits were realized.

2. Ways found to place the surplus labor force. As a result of active development of economic diversification, employment avenues were opened everywhere, making it possible to place the surplus labor force. For example, the Heilongjiang reclamation area organized collective economic units to develop economic diversification, which soaked up 110,000 people in the workforce during 1980. This was 14 percent of all staff members and workers in the state-owned system. Farms in Beijing Municipality organized development of labor-intensive economic diversification projects, with special handicraft production such as embroidery and cloissone soaking up 6,000 members of the labor force.

3. Increased production, increased accumulations, and increased staff member and worker income. In the Xinjiang reclamation area, for example, despite a reduction in the grain growing area in 1981 as compared with 1980 as a result of readjustment of the production structure and agricultural crop patterns, increase in yields per unit of area produced an output that was greater than for 1980. During 1980, Xinhua Farm in this same reclamation area showed losses of 3.91 million yuan. However, as a result of their suiting general methods to local circumstances in the readjustment of crop patterns, plus promotion of production responsibility systems and scientific farming, agriculture showed overall output increases for 1981 and profits of more than 4,185,000 yuan. For the first time in 18 years, the farm did not show a loss. In the distribution of profits resulting from overfulfillment of plan, the proportion of staff member and worker income from bonuses or from the calculation of compensation on the basis of output (or profits) also increased.

4. Increase in commodities and burgeoning of markets; and using things in multiple ways to turn "trash" into treasures. State-owned farm development of economic diversification can increase output of all kinds of commodities for the domestic and foreign markets, and helps the burgeoning of markets. For example, down manufactures produced by the Communist Youth Reclamation Farm in Jiangxi Province have found markets in more than 20 countries of the world. As a result of the development of an aquatic products breeding industry, suburban farms in Shanghai Municipality had catches of more than 400,000 jin of marketable fish between January and April, which they sent to market. This was a 104 percent increase over 1980, and made a contribution to the burgeoning of markets. By using cottonseed hulls as fuel for boilers, the Datonghu Farm in Hunan was able to save 100,000 jin of coal each year. Boiler ashes were made into crude alkali, which could be used to produce soap when added to cottonseed oil dregs. The waste water from soap making could be used, in turn, to make crude pesticides. Thus each 100 jin of cottonseed hulls produced 5.27 yuan of

value. Some farms also used the bagasse remaining after refining sugar to make fiberboard or make paper. This was truly the use of things in multiple ways and turning "trash" into treasures.

5. Impetus to the building of small cities and towns in reclamation areas to accommodate the lives of farm staff members and workers. Some farms established in frontier regions and on wastelands have been able gradually to build new small cities and towns that have become political, cultural and economic centers for the farms. They have done this by establishing processing industries and shops, schools, communications, posts and telecommunications, and hospitals, and by organizing both the collective and individual economies to develop third line producing industries that provide food and beverages, make repairs, and perform services. Not only has such development given impetus to the flourishing of reclamation area economies, but it has been a major convenience for farm staff members and workers. Farms such as Youyi and Qinglongshan in the Heilongjiang reclamation area, and some farms in the Shihezi reclamation area of Xinjiang Province have become models in these regards.

(2) Avenues and potential for development of economic diversification. China's state-owned farms possess superior conditions, broad avenues, and tremendous potential for development of economic diversification.

Farms are spread out over a wide area and cut across frigid, temperate, and tropical zones. Some are on plains and in basins; others are in mountain and hill regions; and still others are along rivers, lakes, and oceans. State-owned farms cover a more than 400 million mu area of which 193 million mu is plains, 30 million mu is forestland, 11 million mu is water surfaces, and 20 million mu is ocean beaches. The land area is vast and resources are plentiful, primary beneficial conditions for development of economic diversification. Secondly, state-owned farms have a population of 11.45 million including 4.93 million staff members and workers. This is a solid force for development of economic diversification. Third, as a result of more than 30 years of building, state-owned farms now possess a certain amount of skill's and equipment. Farms throughout the country have 55,000 large and medium size tractors, 33,000 motor vehicles, 68,000 drainage and irrigation machines, and more than 6,000 industrial enterprises. They also have more than 40,000 technical personnel in various fields. This provides fairly good technical conditions for development of economic diversification.

Farm projects for economic diversification include agricultural sideline production such as the growing of various farm crops, dealings in fruits and forest trees, raising of livestock and poultry, rearing of aquatic products, handicraft industries, and plaiting; industries and businesses engaged primarily in processing and sales of agricultural products, as well as construction, transportation and service trades for social consumption and that serve production for which avenues are extremely broad. At the present time, forestry, animal husbandry, sideline occupations, fisheries, and industrial production and business dealings remain a weak link for many farms, and if these problems can be straightened out, prospects and potential for development will be very great. For example, state-owned farms currently use only slightly more than 1.7 million mu of water surfaces for the rearing of aquatic products.

This is less than 20 percent of total available water surfaces. Yields from the rearing of fish average less than 100 jin per mu, while high yield fish-ponds that do things properly and manage fairly scientifically produce yields of more than 1,000 jin per mu. Only 53 percent of the plains area is being used, and grasslands animal husbandry remains substantially in a backward state of pasturing animals wherever water and grass permit. Ability to withstand calamities is poor; production is inconsistent; the numbers of livestock that can be supported is very low, and the average amount of livestock products comes to only 3.9 livestock product units per 100 mu of grassland (each livestock product unit being 1 kilogram dressed weight), etc. After instituting economic diversification and integrated farming, industrial, and commercial operations, some farms that had formerly shown losses for a long time as a result of a lack of diversification and an irrational production structure have suddenly converted losses into profits, and have made contributions to the country. These situations fully demonstrate the very great potential possible from development of economic diversification and improvement in economic effectiveness. Bright prospects exist if only experiences can be summarized adroitly and efforts made to improve administration and management.

(3) Development of economic diversification requires attention to several problems. In the process of readjusting the production structure and developing economic diversification, state-owned farms must note the following several problems:

1. Play up strengths while playing down weaknesses, and make the most of advantages, linking development of economic diversification to increasing the degree of specialization and socialization of production. Development of economic diversification does not mean a "small but all-embracing" economy of self-sufficiency, but rather the development of fairly highly specialized and socialized commodity production based on the natural and economic advantages that farms themselves provide plus the needs of the country and of markets to increase greatly agricultural sideline products, the marketable amounts of processed products, and the commodity rate. This requires a genuinely good job of surveying farm resources and zoning of the layout of production. It requires a balance between society's needs and the possibilities that farm production conditions provide, and the formulation of plans for farm development of economic diversification on the basis of requirements for specialization and collectivization.

2. Setting up of different forms of integrated agricultural, industrial and commercial enterprises, and establishment of a farm economic system that embraces agriculture, industry, and commerce. Organization of integrated agricultural, industrial and commercial enterprises for the production, processing and marketing of a single farm product or several farm products in a continuous process among state-owned farms, among production teams or enterprises within farms, among farms and nearby rural communes and brigades, and among other production sectors that cut across regional lines helps overcome difficulties resulting from shortages of raw and processed materials, funds, labor forces, and technical equipment. It also helps bring about on-the-spot processing or rough processing of farm and livestock products, expansion of their overall usefulness, and increase in their utility and economic value. It helps those

who produce and those who market fresh and live farm and livestock products meet each other, cuts down on losses and waste resulting from numerous intermediate links, and helps solve present difficulties of purchasing departments whose storage, transportation and processing capacity do not meet production needs so as to advance development of economic diversification. Since its founding in 1979, for example, the Chang Jiang Integrated Agricultural, Industrial and Commercial Enterprise in Chongqing has rapidly developed economic diversification in the processing of milk, fruits, tea, fish, and food. Their profits soared year after year reaching more than 3.8 million yuan in 1980, which was 94 times 1978 profits. In 1981, profits were 5.1 million yuan, in another rise of about 33 percent over 1980. Active and steady operation of integrated agricultural, industrial and commercial enterprises, and step-by-step establishment of an economic system of composite agricultural, industrial and commercial operations will enable state-owned farms to consolidate and develop results gained from readjustment of the production structure and development of economic diversification.

3. Concern about economic results and efforts on projects for diversification hold broad prospects for development and ability to compete in the marketplace. Because some farms did not subject to rigorous technical and economic testing projects for economic diversification, but went ahead blindly, they ended up with a big investment, high costs, and no markets for their goods as a result of which their operations lost money and they suffered considerably. Therefore, at the time that they determine the projects for economic diversification, farms must conduct feasibility studies and analyze subjective factors. Where conditions exist, action should be taken; where they do not exist, they should not be forced. When there are no dependable sources of raw and processed materials, no certainty of power, and no ready markets for goods, and it seems that the project has no prospects for development, one positively should not forge ahead blindly. When a project requires a little investment, costs are low, returns are great, and goods can be marketed and be able to compete in the marketplace, conditions should be actively created and great effort made to develop the project.

4. Linking of investment and use of funds to readjust the production structure and develop economic diversification. The past inequitable state-owned farm production structure resulted largely from inequities in the orientation of fund investment and the scale of distributions. For this reason, readjustment of farm production structures and development of economic diversification must proceed simultaneously with readjustment of the investment structure. In 1981, grassroots enterprises in the Liaoning provincial state farm and land reclamation system allotted 16.4 million yuan from balances remaining contracting of sole responsibility for finances during the previous year, using it for the improvement of production conditions and development of economic diversification. This enabled the farm to convert losses into profits, and some farms that had long relied on state subsidies to get by were able to get out from under.

5. Building of a multi-layer economic structure to arouse the enthusiasm of all quarters. Since the level of development of production on state-owned farms is very uneven at the present stage, and since farms with varying degrees of mechanization, semi-mechanization, animal power and hand labor exist side-by-side

at the same time, and since some hand labor is centralized while other hand labor is decentralized, a multi-layer productivity structure exists. In view of this feature, development of economic diversification requires appropriate development of a partial collective and a partial individual economy. This is consistent with the multi-layer productivity structure. State, collective and individual economic forces should organize to advance together. Farms should run whatever projects are suited to centralized operation in the state-owned system; collectives should run whatever projects are suited to operation by individual staff members and workers or by families; and farms and relevant collective or individual staff members and workers should organize various forms of joint operations on the principle of voluntary participation for mutual benefit for projects that are suited to joint operation by different economic components. This method not only helps tap the potential of farm workforces, funds, technical strength, and resources for an acceleration of the development of economic diversification, but is also an important measure in planning for employment of workforces and in realizing political stability and unity.

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Farm Machines

Farm Machine Use and Responsibility Systems

As an accompaniment to the general spread of agricultural responsibility systems in 1981, farm machine management responsibility systems at all levels used investigation and study to summarize and spread different forms of farm machine use and management responsibility systems, suiting general methods to specific situations in order to surmount the general existence in farm machine administration and management work of a mistaken attitude of "eating out of a large common pot" with no concern for economic results. Incomplete statistics show the establishment of diverse forms of farm machine use and management responsibility systems for between 70 and 80 percent of the country's tractors, and for large numbers of its drainage and irrigation machines and agricultural sideline products processing machines.

Right now, farm machine use and management responsibility systems are of two kinds. One is a responsibility system whereby farm machine stations, teams or units contract with communes, brigades, or production teams, with calculation of compensation being linked to output. The other is an administrative and management responsibility system within farm machine stations or teams.

1. Farm machine production management responsibility systems whereby farm machine stations, teams or units contract with communes, production brigades, or production teams. These systems may be divided into three kinds as follows:

(1) Contracting of plowing and production, calculation of compensation linked to output. Farm machine teams act as specialized teams for contracting with production brigades for all of the brigade's farmland operations, workpoints being recorded for the farm machine personnel and compensation being made at

year's end on the basis of grain output value. For example, Liming Production Brigade in Keshan County, Heilongjiang Province acted as a brigade accounting unit in trial operation of such a responsibility system. In Heilongjiang and Xinjiang, a "five static and one variable" system was practiced (meaning that fixed fees were collected to pay for the cost of fuel, maintenance and repair, major overhaul, depreciation, and management, such fixed fees being termed the "five statics." Only compensation paid to machine operators, which was figured at year end on the basis of production team output or work value, was the "one variable.") Such a responsibility system also belongs in this category.

(2) Joint contracting by farm machine teams with farm teams, or by farm machine teams (or units) take responsibility for machine tasks, farm teams (or farm units) being responsible for jobs that do not lend themselves to machine operations. At the end of each year, production teams make a final settlement of accounts with joint contracting units, and joint contracting units take economic responsibility in common. In Liaoning province, for example, a four tractor team of the farm machine team in Tanggou Production Brigade, Tanggou Commune, Youyan County set up a joint contracting unit with nine vocational teams in six of the production teams in the production brigade. The farm machine unit assumed responsibility for plowing, harrowing, compacting the soil, sowing, cultivating, and farm hauling; all other field care, harvesting, loading and unloading was the responsibility of farm teams. At the final year-end settlement, bonuses or penalties were issued at a 40 percent rate. Apportionments among farm machine teams (or units) and among farm teams (or units) were made on the basis of workpoints. Farm machine team (or unit) workpoints were used solely as a basis for bonuses or penalties. For example, a farm machine team in Xiongmeng Production Brigade, Wuming County, Guangxi Province contracted several production team's low yield fields, the production team providing seeds at a rate of 5 jin per mu and mud fertilizer at a rate of 15 dan per mu, all operations and all expenses from sowing to harvesting being assumed by the farm machine team. At the end of the year, the contracted amount was turned over to the production team, all output in excess of the contracted amount reverting to the farm machine team. This form is also a part of this kind of responsibility system.

(3) Farm machine teams and farm machine units contracting with individual farm teams, the farm machine teams (or units) receiving bonuses or paying penalties depending on whether the harvest is a bumper one or a lean one. Farm machine teams (or units) contract plowing and harrowing, collecting fees in accordance with contract. Farm work teams are responsible for other jobs, and at the end of the year, production teams make a final settlement with farm work teams. For example, a farm team in Wangzhuang Production Brigade, Chengxiao Commune, Gaomi County, Shandong Province contracted plowing and harrowing for individual production teams, all else being the responsibility of farm work teams. Should yields increase, 30 percent of the increase was to go to the farm machine team as a bonus; should yields decrease, the farm machine team would appropriately reduce its machine plowing fee.

2. Farm machine station or team internal administration and management responsibility system:

(1) Fixed contract, bonus, and penalty responsibility system. The way in which such responsibility systems work is as follows: Accounts are kept for individual farm machines, and numbers of personnel, work quotas, consumption, costs, and remuneration are all fixed. If work quotas are overfulfilled or fuel and materials saved, a bonus is given for reduced costs. If yields slip or consumption of fuel and materials rise, a penalty is levied for the increased costs. Such a method requires that both managerial personnel and farm machine team personnel come up to certain administrative and management standards; furthermore, complete records must be kept, and inspection and acceptance must be done on time. This requires quite a lot of work, and the task of setting various quotas is a fairly complex one.

(2) Responsibility system linking output to calculation of compensation. Compensation paid to farm machine personnel depends on the income or profits of individual work sites. Compensation fluctuates and, in some cases, distributions are made on the basis of earnings. In other cases, distributions are made on the basis of profits. In still other cases, part of wages (or work-points) fluctuate. This kind of responsibility system closely links farm machine personnel work results with economic benefits, and is more effective in arousing the enthusiasm of farm machine personnel. Such a responsibility system is simple, so numerous farm machine stations (or teams) that practice fixed contract and bonus responsibility systems have gradually promoted this kind of responsibility system. For example, Hanyang County in Hubei Province instituted a fixed contract and reward responsibility system in 1980, and by 1981 80 percent of all counties had changed to a responsibility system in which calculation of compensation is linked to output.

(3) Contracting jobs to be done within a certain period of time. Certain jobs are contracted as the farming season requires. Strongly seasonal farm machine operations that must be done during a concentrated period of time, such as transplanting of seedlings, threshing, irrigation, or harvesting and drying of grain are contracted. The way this works is for a given farm machine operation to be contracted to a farm machine team or several farm machine personnel, with a certain amount of work to be done during a certain period of time and at a certain cost, agreement reached on rewards or penalties to be awarded. This method is used mostly in places having a shortage of farm machines. Some places have also used this method when there is a serious shortage of work to be done, or where management levels are low.

(4) Contracting of machines to individuals. This kind of responsibility system began before 1979, and expanded considerably after 1980. At the outset, many units required only that contractors pay the unit a certain amount of money each year. This was termed, "contracting a lot of jobs at one time and not being concerned about them." This method was simple and workable; however, it was not closely linked to agricultural production, and it opened the way for contractors to care for nothing except getting more money without regard for production needs. Thus, it was not encouraged. Since 1981, as a result of the summarization of experiences, numerous places have gradually improved the system. Contract agreements require machine teams to turn over profits to the state, and contain specific requirements on farmland work quotas to be completed, technical condition of machines, and production safety. In Sichuan

Province, such agreements are termed, "first, contracting fields; second, contracting money; third, contracting machines; and fourth, contracting safety." This form of responsibility system is simple and workable and shows quick results. The relationship between results of machine unit personnel work and economic benefits is a direct one; responsibilities, rights, and benefits are closely linked; and, comparatively speaking, this method makes it easier to arouse the enthusiasm of farm machine personnel to the benefit of both individuals and the collective. In places having only one or two farm machines or that have machines with no one to look after them, in communes and brigades practicing "double contracting," as well as in communes and brigades where the level of management and economic effectiveness is poor resulting in losses over a long period of time, use of this form of responsibility system is commonplace.

As a result of the establishment and gradual perfection of machine use and management responsibility systems, farm machine stations have improved quality of service, and have given impetus to increased output and increased earnings in agriculture. At the same time, farm machine stations and teams have also gained marked economic benefits. In Jiangsu Province, 270 commune farm machine stations in Nantong Prefecture instituted responsibility systems and actively launched economic diversification as well, achieving remarkable economic results. In 1980, gross earnings reached 37.09 million yuan and profits 3.1 million yuan, profits averaging more than 10,000 yuan per station. In 1980, as a result of the institution of responsibility systems for more than 11,000 tractors in all counties in suburban Hangzhou, Zhejiang Province, 2.75 million yuan was realized from increased yields and savings in expenditures, or an average of 250 yuan per tractor. In 1980, suburban Wuhan in Hubei Province instituted various forms of responsibility systems for 7,000 tractors (or 80 percent of the total number), with the result that expenditures for maintenance and fuel alone were 2.5 million yuan less than in 1979, or an average saving of between 300 and 400 yuan per tractor. In Hanyang County, where a good job was done with responsibility systems, savings in expenditures of nearly 600 percent per tractor were realized.

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Water Conservancy

Establishment and Perfection of Responsibility Systems, and Good Management and Use of Farmland Water Conservancy Projects

Since the founding of the People's Republic, very great achievements have been scored in farmland water conservancy. Large numbers of projects and facilities have been built to promote increased agricultural production and to provide an ample material basis for withstanding natural calamities. These projects and facilities have become an important integral part of the means of production of the collective economy. However, these projects, including reservoirs, ponds, dikes, sluice gates, ditches, wells, machines, and pumps can become fully effective only through improved management. Since 1981, with the establishment and development of agricultural production responsibility systems, all jurisdictions have tried out various forms of responsibility systems for management of farmland water conservancy, achieving outstandingly good results.

(1) They have raised the readiness rate and the utilization rate of existing water conservancy projects and facilities; (2) they have further tapped potential for fully equipping projects and expanding the irrigated area; and (3) they have saved expenses in maintaining and repairing projects and facilities. In addition, they have given impetus to economic diversification and have increased ability to look after management expanses themselves. After many places had instituted specialized contracting responsibility systems, not only did managerial personnel manage and use water conservancy projects and facilities well, but also used water and soil resources to the full, planted trees, reared fish, grew grain, planted vegetables, cultivated medicinal herbs, and went in for industrial sideline production to develop economic diversification. Practice has shown that institution of management responsibility systems is a fine way in which to apply economic laws to good management of farmland water conservancy.

All jurisdictions have currently suited general methods to specific circumstances in adopting various forms of farmland water conservancy management responsibility systems. For example, small farmland water conservancy projects under commune and brigade collective ownership have generally instituted contract responsibility systems whereby calculation of compensation is linked to results or to output. While making allowances for differences in kinds of projects, scale, and production team management systems, such contract responsibility systems link responsibilities, rights and benefits under the centralized leadership of communes, and brigades. They use mostly "fixed quotas, contracting, and bonuses" to institute various forms of contract responsibility systems such as all-around contracting, specialized contracting, contracting for individual categories, or contracting with specific households or individuals.

All-around contracting. This means communes, production brigades, or production teams setting up of management stations or specialized teams, depending on the size of projects and particulars to be dealt with, to carry out centralized management, to do all-around contracting, and to be responsible for all profits and losses. Within the stations or teams, there is a clear division of labor, several kinds of contracts and quotas, and specific individuals designated responsible, compensation being linked to results or to output value and the condition of projects. Different compensation or penalties are awarded depending on how well tasks are performed. This form of responsibility system is used mostly by small reservoirs and pumping stations, and by projects and facilities that deal with a substantial number of matters.

Specialized contracting. This is a specialized management corps centrally organized by communes and brigades receiving benefits from a project. This corps does specialized contracting. Individual contracts are let on individual small projects such as small machine pumping stations, waterwheel pumping stations, pump wells, dammed ponds, and small sluice gates. Mostly contracts are let through bids or through self-assessment and public discussion. Subject to mass agreement and commune and brigade approval, contracting is done in the form of agreements with teams, households, or individuals. Yet another responsibility system form is large scale contracting of sole responsibility. This form is used fairly widely in places having responsibility systems where production is contracted to individual households or where sole responsibility for task completion is contracted to individual households. This means that

management of pump wells, ponds, pumping stations, and such small projects is contracted entirely to teams, households, or individuals, and several contracts and several quotas set, the contractors being fully responsible for rewards or penalties. In addition, in some places the responsibility for management of field projects such as bridges, sluice gates and culverts is assigned to households that have contracted responsibility for fields in which such facilities are located. In such cases, production teams designated a certain amount of cultivated land from which no contracted output is required as remuneration for the management.

Gradual improvement and spread everywhere of agricultural production responsibility systems, and increase in the number of households using water has posed new problems for management of water used in irrigation. The methods numerous places have adopted to solve these problems have been as follows: Where irrigation areas cut across production team boundaries, usually each production team involved requests the amount of water required and when it is required. Managerial units then work out overall arrangements, get the water to the production teams, collect fees from below and make payments to higher authority, the production teams parceling the water to teams and to households. Quite a few places also charge a basic water fee plus a fee based on amount used or on number of mu served, adding a surcharge for any surplus amount used and a benefit for less use. Production teams decide priorities in providing water from ponds and dammed ponds on the basis of closeness to sources and difficulties in providing water, and centrally regulate water sources "releasing water with a chop of a hoe." In the irrigation and drainage of water in south China's paddy fields, since series irrigation and series drainage continues over a substantial area, conflicts and disputes frequently rise in "double contracting" areas. In this connection, some places use existing ditches where possible or build temporary small embankments where no ditches exist in order to move water. Otherwise, they reach a sensible solution through discussion on the basis of local custom, or else pay a certain amount of manure in compensation.

Depending on the experience of each area as well as on the size of projects, the scale of benefits received, and different forms of agricultural production responsibility systems, various forms of management responsibility systems, various forms of management responsibility systems for farmland water conservancy are promoted in a suiting of general methods to specific circumstances without any "arbitrary uniformity." But no matter the form of responsibility system adopted for management of farmland water conservancy, it must help assure that water conservancy projects and facilities remain intact and that the benefits they provide are used to the full. It must help stir enthusiasm among managerial personnel for managing and using projects and facilities well. It must promote increases in agricultural production, advance development of the collective economy, and improve the people's standard of living. In order to manage and use existing farmland water conservancy projects well, it is necessary to continue to investigate and study thoroughly, to summarize experiences, and to continuously amplify and improve various kinds of responsibility systems so that farmland water conservancy management will rise to a new level.

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Grain Policies

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[Text] Implementation of Rural Grain Policies To Promote Increased Grain Output

During the past several years, government departments concerned have taken some major policy actions in grain work that have earned support from the broad masses of peasants, and that have played a major role in promoting agricultural production and developing a fine rural situation.

(1) Pursuit of policies to steady the peasants' grain burden. In recent years, the country has carried out policies in its grain work that steady the grain burden that peasants bear. In the 3 year period 1978-1980, national grain output increased by a total of 109.22 million tons, while state plan purchases increased by only 10.06 million tons. In 1981, the country triumphed over flood and drought disasters such as have rarely occurred in history, for a grain output totaling 325.02 million tons, the second highest year for production since the founding of the People's Republic. State grain purchases were greater than in 1980. Up until 1976, state grain purchases annually averaged more than 20 percent of gross output, but during the last 3 years such purchases have been less than 19 percent and have fallen year after year. Conversely, state resales of grain to rural villages have increased year after year in recent years. During the 1978 grain year, such sales amounted to 16.35 million tons, to 20.35 million tons in the 1980 grain year, and will increase by 3.7 million tons during the 1981 grain year. As a result of decline in the percentage of marketable grain and increase in resale of grain to rural villages, the average amount of grain per capita of agricultural population (average per capita of rural population after subtraction of state sales from the addition of resales to output) has increased at an average 13 kilograms per year during the past 3 years for an increase totaling 39 kilograms in 3 years. This has rarely happened since the founding of the People's Republic. Results from institution of policies to steady peasants' grain burdens on a basis of increased grain output have improved the peasant's livelihood. Grain consumption has risen, and economic diversification has developed. In addition, peasants have sold some surplus grain in country fair markets or have sold it to the state at negotiated prices to increase their income.

(2) Policies have been adopted to look after some long-term grain short areas. Since the Third Plenary Session of the 11th Party Central Committee, as a result of the practice of various forms of production responsibility systems, agricultural production has revived and developed quickly in some places where peasants have been needy for a long period of time, and the peasants' standard of living has improved markedly. Simultaneously, the state has taken some actions in

grain work, principal of which have been the following: (1) In placing a floor under grain purchases, "CPC Central Committee Decisions on Various Problems in Hastening Development of Agriculture" provided that procurement should be late in all paddy growing areas where yields are less than 400 jin per mu and in all places where yields of grain other than wheat and rice are less than 300 jin. Excessive grain purchases would positively not be allowed. Inasmuch as the amount of grain held for consumption by peasants in grain surplus areas is greater than these standards, the purpose of this regulation is primarily to solve problems of grain shortages in low yield grain areas. For example, Shaanxi, Qinghai, and Ningxia formerly placed a floor lower than 300 jin under grain sales, but now the state required standard of 300 jin for grains other than wheat and rice is followed throughout. This guarantees minimum peasant needs for grain consumption. (2) Reduction of or exemption from grain procurement quotas. In 1979, after the downward readjustment of the 2.5 million ton state procurement base figure decided on by central authorities was apportioned among the various provinces, not only did numerous provinces and autonomous regions make sure to solve problems with marketable grain producing areas carrying too heavy a burden, but also looked after areas where peasants lived in need. Eastern Sichuan, Dingxi Prefecture in Gansu, and Xihaigu Prefecture in Ningxia substantially reduced grain procurement base figures. Hubei Province reduced by more than 30,000 tons state procurement base figures for Enshi, Yunyang, and Yichang prefectures and ruled against any further excess procurement in mountain regions. In recent years, the state has laid special stress on looking after parts of the country with large concentrations of minority nationalities, and has reduced base figures for grain purchases. In minority nationality areas of Hainan Island in Guangdong Province, for example, the State Council has decided to abolish public procurement grain quotas within 5 years; special policies have been adopted for the Xizang Autonomous Region, and an announcement has been made that monopoly procurement and monopoly sales are to be abolished. (3) Institution of sole responsibility for grain with no change to take place for several years. During the past 2 years, the state has instituted a system of sole responsibility for imports of grain into the grain short provinces and autonomous regions of Guizhou, Yunnan, Nei Monggol, Gansu, and Qinghai, and some provinces have also instituted sole responsibility methods in needy areas. Henan Province, for example, instituted sole responsibility for the gap between procurement and sales of grain in six key needy counties to continue without change for 3 years beginning with 1979. In Yan'an, Yulin, Shanglo, and Ankang prefectures in Shaanxi Province, after state procurement base figures and excess procurement quotas for grain were adjusted downward, they remained down for several years without change. In needy mountain and forest areas of Liaoning Province, which have historically been grain short, large scale sole responsibility for fixed output and fixed sales was instituted. Beginning in 1979, Anhui Province carried out a program of grain supply to mountain regions guaranteed to remain unchanged for 5 years. These policy measures allowed peasants in needy areas to catch their breath, develop production, and improve their livelihood. Statistics from Yunnan Province show that in 1979 there were 71,507 "three dependency" brigades in the whole province that depended on loans for production, on relief aid for daily livelihood, and for sales by the state of grain at uniform prices in order to eat. By 1981, more than 39,800 of them were no longer grain short, and the level of grain consumption in the remaining ones had markedly improved. In some areas, brigades that had long been grain-short sold surplus grain for the first time in 1981.

For example, grain had formerly been fairly scarce in Chuxian Prefecture, Anhui Province, but in 1979 a number of households producing 10,000 jin of grain appeared, and in 1980 another group of 10,000 jin of grain households appeared. In 1981, peasant sales of grain to the state by every county in the entire prefecture were greater than 50,000 tons.

(3) Increase in grain procurement prices and downward adjustment of state grain procurement base figures. In accordance with a decision of the CPC Central Committee, the procurement price for grain was raised 20 percent beginning with the arrival of summer grain in the market in 1979, and the excess procurement price was raised from 30 percent more than the monopoly procurement price to 50 percent. In 1981, the monopoly procurement price for soybeans was also increased to the excess procurement price level, i.e., it was raised 50 percent. At the same time, the former increased procurement price for soybeans was abolished. As compared with 1978, during the 3-year period 1979-1981 peasant income increased by about 11.4 billion yuan as a result of increases in the monopoly procurement price and the increased excess procurement price for grain, or an average increase of more than 10 yuan per peasant. In places providing a substantial amount of marketable grain, peasant income increased even more.

Yet another measure that increased peasant cash income was the downward adjustment of state grain procurement base figures. The state provided that once peasants had fulfilled base procurement figures that had been guaranteed to remain unchanged for several years, all additional sales of grain would be paid for at the excess procurement price. Thus, once the base procurement figures had been adjusted downward, peasants could get the excess procurement price for selling the same amount of grain to the state as previously. During the past 3 years, several downward readjustments of base procurement figures have been made with State Council approval. In 1979, a 2.75 million tons downward readjustment was made. In 1980, a more than 570,000 tons downward readjustment was made for minority nationality areas; and in 1981, a 2.5 million tons downward adjustment was made for major south China paddy producing areas. With an increase in the price paid for soybeans, the previous base procurement figures were abolished. In major soybean producing areas, base procurement figures for soybeans were reduced by more than 1.42 million tons. In addition, a small number of provinces were permitted to downscale procurement base figures in a 7.45 million ton downscaling for the country as a whole. The abolition of excess procurement of soybeans with the rise in prices aside, as a result of the reduction of grain procurement base figures over a 3-year period, peasants earned about 2.1 billion yuan more from excess procurement prices paid. Increase in grain procurement prices and the reduction of grain procurement base figures spurred the enthusiasm of the broad masses of peasants to sell grain to the state. During the past 3 years, both state grain procurement and excess procurement plans have been overfulfilled every year, particularly in major marketable grain producing areas. This has helped solve the problem of low peasant income in grain producing areas, and has played an active role in development of marketable grain production.

(4) In the implementation of grain policies for cash crop growing areas, in order to insure development of cash crop production, the State Council ruled that grain rations for peasants in major cash crop growing areas should be no lower than in neighboring grain producing areas. For numerous reasons, this

policy had not been fully carried out in numerous areas in the past. Following the Third Plenary Session of the 11th Party Central Committee, it was decided to increase grain imports in order to readjust agricultural crop patterns. This was a major strategic policy. As a result of a suitable increase in grain imports, the state was able to implement policies to steady peasant grain burdens so that conditions would exist everywhere for a readjustment of farm crop patterns and better conditions would exist for peasant development of economic diversification. In order to increase production of cotton and sugar, the state provided some grain subsidies to certain areas for rations to cotton growing peasants and for new cotton fields. The state also decided that beginning in 1981 a policy of award sales of grain would be instituted in major cotton and sugar producing areas linking cotton and grain and sugar and grain. In 15 major cotton producing provinces, municipalities, and autonomous regions, once peasants had fulfilled their cotton procurement base figures, for each additional jin of ginned cotton sold to the state an award sale of 2 jin of grain would be made. In five major sugarcane producing provinces and autonomous regions, once procurement base figures for sugar had been fulfilled, for each additional ton of sugar sold to the state, an award sale of 1 ton of grain would be made. In four major sugarbeet producing provinces and autonomous regions, for each ton of sugar an award sale of 1 ton of grain would be made. In 1981, grain award sales and subsidies paid out for cotton and sugar ran to 3.9 million tons. In recent years, award sales of grain for state procurement of live hogs and other agricultural sideline products have also increased tremendously. In 1978 they amounted to 4.1 million tons; in 1980 they increased to 6.7 million tons; and in 1981, they will increase somewhat. Most such grain award sales have been for the procurement of live hogs.

China's vast mountain regions have superb conditions for development of economic diversification such as animal husbandry, gathering, plaiting, fruit, and forest trees. In order to make the most of the strengths of these regions for development of economic diversification, each province and autonomous region has devoted extremely great attention to solving grain problems in such regions. Sichuan, Zhejiang, Jiangxi, Anhui, Hunan, and Guangdong provinces have allocated special grain, some of which has been used to provide mountain region peasants directly with grain rations. Some of it has also been used for award sales when peasants sell timber or special native products. Implementation of grain policies in cash crop areas and mountain areas has improved the grain situation in these areas and has promoted all-around development of agriculture. In 1981, the country's output of cotton, oil-bearing crops, and sugar crops reached an all-time high since the founding of the People's Republic, and new achievements were also scored in forestry, animal husbandry, and the fishing industry.

(5) Liberalization of grain markets and initiation of negotiated purchases and negotiated sales of grain. Since the Third Plenary Session of the 11th Party Central Committee, in addition to maintaining centralized procurement and centralized marketing as well as centralized allocation of grain, taking the planned economy as the key link, the ancillary role of market regulation has also been brought into play. Every jurisdiction in the country liberalized rural grain markets. Once production teams and peasant households had fulfilled state grain procurement and excess procurement quotas, they could even cut surpluses and shortages of grain in markets and adjust the kinds of grain found in them. City and town residents could go to country fairs to buy grain.

Extrapolation shows a grain turnover among the masses in country fair markets of 2.5 million tons of grain in 1978, about 5 million tons in 1980, and yet another increase over the previous year in 1981. As a result of improvement in the rural grain situation, the price of grain in markets throughout the country has remained fairly stable with some decline in recent years.

Simultaneous with liberalization of grain markets, the grain sector also actively initiated negotiated procurement and negotiated sales of grain. Negotiated procurement took largely two forms as follows: One was that once procurement and excess procurement quotas had been fulfilled, production teams could talk over negotiated procurement prices for their surplus grain. Second was that country fair markets negotiated prices with the masses in transactions involving surplus grain. Negotiated procurement prices fluctuated with the market and were somewhat lower than market price. Statistics show a tremendous increase year by year in the amount of negotiated procurement during the past several years. A total of 3.27 million tons was purchased at negotiated prices during the 1978 grain year. In 1980, it was 8.59 million tons. In 1981, another increase will occur. Except for a small amount of grain that the state procures at negotiated prices, which is provided at list price, most is sold at negotiated prices as a means of satisfying mass demands for improvement in their standard of living, and to provide more food for markets. The amount of marketing at negotiated prices has also steadily increased in recent years. In 1978, it was 430,000 tons. In 1980, it was 4.89 million tons. In 1981, a substantial increase over the previous year will occur. Advantages flowing from the liberalization of grain markets and initiation of negotiated procurement and negotiated marketing include the following: 1) The peasants are able to sell their grain, and when grain is short they can buy it. The kinds of grain that city and county people need can also be adjusted to the very great convenience of the masses. 2) It has enlivened markets and improved the people's livelihood. 3) Sales of surplus grain and negotiated prices for grain permit increased cash income. 4) During the period when the previous harvest has been used up and the new crop is not yet in, grain prices are kept flat and the welfare of peasants and urban people protected. 5) Negotiated procurement is also a supplementary channel through which the state can keep control over grain sources.

(Grain Department Policy and Research Office)

Rural Business

Smooth Flow of Goods and Development of Commodity Production

Liberalization of rural economic policies, increase in procurement prices paid for major agricultural sideline products, promotion of various forms of economic responsibility systems, and formulation of a production program of "positively no relaxation of grain production while actively developing economic diversification," all of which have followed in the wake of the Third Plenary Session of the 11th Party Central Committee, have stirred the enthusiasm for production of the broad masses of commune members; bumper harvests have been reaped year after year in agriculture, and a fine situation such as has rarely occurred since the founding of the People's Republic has come into being. For example, volume of edible vegetable oil procurement was 1.1 times the 1978 amount; cotton procurement increased 34 percent, and tea procurement increased 15 percent.

Development of rural commodity production has provided more raw materials and products for industry, for cities, and for export, and has increased social wealth and commune member earnings. However, despite this very fine situation, some problems have occurred with rural business not being suited to development of a commodity economy. No sooner had rural economic diversification developed than problems occurred such as a blockage of channels for the circulation of goods, downgrading in order to drive down prices, and slack sales, which caused production losses and waste. Some units hiked prices to seriously monopolize goods in short supply and pound state plans. In consequence, the broad masses of rural cadres and people demanded institution of diverse channels for the flow of goods, and linked production, supply, and marketing in order to advance rapid development of agricultural production and a further burgeoning of the rural economy to provide society with more goods and increase peasant income.

More Channels and Fewer Links

Rural supply and marketing cooperatives and their grassroots business outlets have always been a major channel of economic exchange between city and countryside that have made substantial contributions in making the rural economy flourish, in developing production, and in insuring supplies. This should be made clear. However, ever since rural supply and marketing cooperatives gradually changed from the collective ownership of the 1950's to state-owned businesses, they have stifled rural business with controls and monopoly dealings, and a bureaucratic business workstyle has developed in them. In a country as vast as China with abundant products and resources, with diverse needs for the people's livelihood, and where production conditions differ in myriad ways, such monopolistic dealings cannot do a good job of city and countryside material supply and marketing. On the one hand gradual reform of the rural supply and marketing cooperative system should be carried out to revive a cooperative business nature and to attract purchase of shares by commune and brigade collectives and individual commune members, with profits distributed on the basis of share holdings and on volume of transactions in agricultural sideline products, business activity and peasant economic benefits being linked. This is the only way in which cooperatives can play a greater role in the organization of rural economic life. On the other hand, in order to make the rural economy prosper and commodity production develop, it is necessary to open and keep open diverse channels for the flow of goods. Waste of production resulting from clogged channels is extremely alarming. For example, during 1980 more than 30 million jin of citrus fruit rotted in Sichuan Province, and in 1981, large quantities of citrus fruits and bananas rotted in Jiangxi and Guangxi. In Shandong Province, about 10 percent of apple production is lost yearly. Of course, many reasons account for losses, few channels and many links being major ones. When Sichuan Province had a bumper citrus fruit crop in 1980, authorities concerned in Nanchong Prefecture signed sales agreements with several north China provinces for 10 million jin. However, when the fruit picking season arrived, the agreements for sales outside the province could not be carried out because only a single department was permitted to make purchases. Conversely, the County CPC Committee and Agriculture Committee of Rong County in Zigong City took a hand in providing active support to communes and brigades in the signing of marketing contracts with other places. They also promptly organized outbound shipment and marketing, so none of the fruit rotted. Thus, businesses and supply and marketing cooperatives should make full use of existing business organizations

to demolish local blockading and organize commodity flow on the basis of economic laws, bending all efforts to develop sales of goods. At the same time, they should plan trial running and development of commune and brigade collective businesses such as trade warehouses, joint supply and marketing directorates, and integrated agricultural, industrial, and commercial enterprises with numerous components, numerous channels, and few links.

In recent years, the agricultural sector has acted in the spirit of Central Committee instructions to test operate various forms of integrated enterprises such as agriculture, industry, and commerce; forestry, industry, and commerce; animal husbandry, industry, and commerce; tea, industry, and commerce; and fruit, industry, and commerce. It has organized the processing and marketing of agricultural sideline products, and brought producers and sellers into direct contact with each other with rather good results. In Hubei Province, the Puche County Tea, Industry, and Commerce Integrated Enterprise linked production, processing and marketing for an overfulfillment of state quotas for product sales. Both tax revenues paid the state and peasant personal income increased, thereby giving impetus to the development of tea production. The collective businesses with numerous channels for circulation of goods and few links that are appearing in rural villages today meet the needs of changed production relationships and readjustment of the economic structure. It is necessary to summarize experiences steadily, to make sure things are run well so that these collective businesses play an ever larger role in making the economy prosper and in developing production.

Fixed Base Figures and Signing of Agreements

China's socialist economy at the present stage is a commodity economy directed by state plans; thus the planned economy must be taken as the key link and market regulation supplementary. Rural business departments operate mostly to purchase agricultural sideline products and to provide the means of production and the means of livelihood. In the procurement of agricultural sideline products, it is necessary to adhere to a policy of monopoly procurement and monopoly sales of goods such as grain, cotton, and oil, and to a policy of assigned procurement for Category II agricultural sideline products in order to insure fulfillment of state quotas. However, the ramifications of whether base figures set for procurement of agricultural sideline products are equitable are extremely great. For example, Zhejiang Province set equitable base figures for monopoly procurement and assigned procurement of 14 different major agricultural sideline products on the basis of party programs and policies taken together with actual circumstances in the province. Their specific method of operation was as follows: (1) Setting base figures for procurement of Category II agricultural sideline products such as silkworm cocoons, citrus fruit, tea, and tung seeds, whose production was fairly consistent, guaranteeing no change for several years, and distributing all output in excess of base figures. (2) Publicizing the cancellation of past restrictions on not being able to sell in markets Category II agricultural sideline products remaining after fulfillment of state quotas. (3) Making purchases at state list prices for monopoly procurement and assigned procurement within base figures, and procuring at an additional price or at a negotiated price everything outside of base figures.

The result of this practice was achievement of "one coordination and four increases," namely a coordination of state plan with commune and brigade self-determination and peasant initiative, and an increase in products, quantities purchases, state tax revenues, and peasant earnings. The masses said happily, "When base figures are set right, all three are satisfied." "The state gets a lot; collectives get rich; and commune members' lives improve." In order for base figures to be equitable, concurrent concern must be shown for the interests of the country, collectives, and individuals, while consideration must be given at the same time to the numerous complex factors existing in the real situation, factors such as new areas and old areas, dispersed production areas and concentrated production areas, goods that are in urgent demand and goods that have only slack sales, bumper years and lean years, etc. Base figures must be set on the basis of actual circumstances and without arbitrary uniformity.

Practice has shown that promotion of agreements systems are a fine way in which to coordinate state plans and arrangements for peasant production. Agreements systems are of many kinds, and where formerly they were much used in the industrial sector, they have begun to be tried in the agricultural sector as well in recent years. Production and marketing agreements for agricultural sideline products have been widely tried out in some places such as in Jin County in Hebei, Cheng County in Zhejiang, Su County in Anhui, and Yuanjiang county in Hunan, where results have been very good from trials of agricultural sideline product production and marketing agreements. Even though agreement systems are in an unperfected preliminary trial stage, they have demonstrated vitality. Agreements systems must specify the obligations for which both parties are to be responsible, and both parties must abide by them and carry them out rigorously. For example, the goods that peasants are to turn over, the amounts, the proportions, and the time, as well as the quantities and kinds of means of production that business units are to procure, sell, and supply to peasants must all be set down in the agreements. How industrial and commercial administrative departments are to exercise effective supervision and how violators are to be penalized in accordance with economic laws and regulations, etc. are all matters that must keep pace with work. Agreements systems are an important ingredient of economic legislation, but currently economic agreements laws and regulations in China have not been perfected and the country is in process of organizing forces for active economic legislation work. However, this is only an issue in the course of moving ahead; agreements systems experiences should be summarized in practice, constantly perfected, and gradually promoted generally.

Spurring Production to Make Contributions

Production determines flow, and flow spurs production. For this reason, a first requirement is suiting general methods to local situations, a rational pattern, making the most of advantages, and marching toward production in breadth and in depth. It is necessary to upgrade and expand productivity at the same time. This requires advanced science and technology and an equipped agriculture. This shows that so strenuous and complex a task as developing agricultural production requires the coordination and support of individual sectors. Rural development of economic diversification and expansion of commodity production requires assistance from every trade and industry. The commercial sector in numerous places has devoted attention to active support and guidance to commune and brigade development of sales promotion as one of its important tasks.

In addition to good performance in regular procurement of agricultural sideline products, they have done a positive job of procuring and promoting the sale of goods in extremely short supply and goods that move only slowly. Planning financial, material, and transportation sectors have made customers out of collective businesses, commune and brigade enterprises and integrated agricultural, industrial, and commercial enterprises, providing them with support and accommodating them so that agricultural production has developed comprehensively. The problem now is that after rural businesses have provided numerous channels local people's governments still have to strengthen leadership, delineate vocational spheres, and do a good job of coordinating, guiding, and managing. Various rural businesses as well as individually organized transportation and marketing activities require strict obedience to government policies and laws, and subordination to industrial and commercial management. In addition, good market forecasting constantly provides economic information for production so that production can be geared to sales and economic waste prevented in production.

In order to develop production of marketable goods, so long as rural communes and production brigades insure fulfillment of planned quotas to be turned over to the state, places having requisite conditions should actively launch local processing, careful selection, careful manufacturing and multiple uses of agricultural sideline products. In this way, not only can the agricultural utilization rate and economic value of agricultural products be raised, but difficulties in selling, storing, and transporting products can be reduced, and a saving effected in the consumption of manpower, financial, and energy resources. Commune and brigade enterprises can do this, and the business and supply and marketing sectors can also do their own processing of agricultural sideline products they have purchased. They can jointly process them with communes and brigades or they can commission commune member families to process them. The production sector can take the production, processing and sales road, and the commercial sector can take the purchase, processing and sales road. In short, there should be no permitting only A to do something and not permitting B to do it. So long as what is done is in keeping with the principles of economic benefit and so long as government laws are observed, state-owned businesses, collective businesses, commune and brigade enterprises, and the agricultural production sector can all do this. This will require that managerial departments do a good job of coordination, devote attention to planning, strengthen management, and develop in a planned step-by-step way, avoiding rash action.

In summary, a clear appreciation of the fine situation on the agricultural front, and good performance in the institution in rural villages of many components, numerous channels, few links, setting of equitable base figures, general promotion of agreements systems, planned direction, emphasis on management, and strengthening of leadership can mean the emergence in rural villages of a new situation of development of production, abundant products, lively markets, and economic prosperity.

(Li Houzhong [2621 0624 1813])

Carrying Out Procurement and Marketing Policies to Spur Live Hog Production

Increase in the purchase price of live hogs, the decision to continue to encourage commune members to raise hogs, and active development of a program of collective hog raising in recent years have greatly aroused commune member family enthusiasm for hog raising, with the result that the long enduring situation of fairly short supplies of pork has been turned around. In 1980, national pork output totaled 22.68 billion jin, or an average consumption of 22.3 jin per capita for cities and countryside, making it the best year for pork supplies since the founding of the People's Republic. The year 1981 was also a fairly good one throughout the country for production, purchases, and sales of live hogs. Gross output of pork and average per capita consumption remained at virtually what they had been during the previous year.

Pork is China's most important non-staple food, accounting for more than 90 percent of total meat output in the country. Hog raising is also an important family sideline occupation in China's rural villages and a major source of peasant cash income. In addition, gathering of manure from the raising of pigs is also an important measure for development of agricultural production. In recent years state funds invested in the purchase of live hogs have run to more than 16 billion yuan annually, or an average of more than 90 yuan per peasant household. However, it should be realized that despite substantial increase in recent years in live hog production and in pork consumption by people in cities and the countryside, both have been fairly low in terms of world averages. Thus, further development of live hog production remains a formidable task.

The commercial sector's responsibility for organizing procurement and supply of goods plays a role as a bridge and a link between cities and the countryside, and between production and consumption. Thus, a good job of purchasing and marketing and expansion of the flow of marketable goods have a direct bearing on development of production.

Production and flow are mutually reinforcing and mutually restrictive. The raising of live hogs is a major family sideline occupation. One reason peasants raise hogs is so they can sell them for money that they can exchange for the means of production or daily necessities that they want. Another reason is so that they will have meat to eat. Thus, it is both production for self-sufficiency, and is also production of marketable goods. However, the marketable amount of goods is not only closely related to production conditions, but frequently is affected by procurement policies, and particularly by price policies. Even in the portion that is marketable, the proportions sold to the state or sold in country fairs frequently changes. Thus, when commercial sectors formulate and implement live hog procurement policies, they must bear in mind what helps advance development of production and what helps equitable distribution of products so as to assure city and countryside market needs.

1. Adherence to the institution of assigned procurement or planned procurement policies and active promotion of procurement agreements systems. Inasmuch as live hogs are a national Category II sideline product, institution of assigned procurement or planned procurement is a major policy in adherence to the socialist planned economy, in guaranteeing that major channels be kept open, in assuring the needs of the state and of city and countryside people, and in stabilizing

market prices. Consequently, every jurisdiction must set appropriate assigned procurement proportions or planned procurement quotas on the basis of local live hog production and in accordance with state requirements and local consumption levels, and implement them level by level down to the grassroots. Specifically, grassroots commercial departments must sign procurement agreements (or issue assigned procurement certificates) with production teams and peasants selling hogs, production teams being responsible for organizing the turnover of hogs to assure realization of state procurement plans. On the one hand, peasants have to understand quotas, times, and specifications in accordance with state policy regulations, and that turning over fattened hogs to the state is a duty that peasants must do their utmost to fulfill, that is solidifies the alliance between workers and peasants, and that it is necessary to strengthen mutual support between cities and the countryside. On the other hand, commercial sectors should steadily upgrade policy standards and technical standards, conscientiously carry out state prescribed procurement policies, price policies, and material award sales policies. At the same time, a sensible number of network outlets should be established and procurement methods improved to accommodate and satisfy mass needs and to prevent or avoid the problem of "difficulty in selling hogs."

2. In the distribution of meat, the principle concurrent for cities and the countryside is to be adhered to. This entails both priority in supplying cities and proper arrangements for rural needs. This is a long-term policy in China. So-called priority means that rural villages are to assure fulfillment of commercial sectors' procurement policies first, while at the same time providing for the portion to be used by peasants themselves so as to assure rural consumption requirements.

The relationship between cities and countryside in a socialist system is one of mutual assistance in which the fundamental political and economic interests of city and country people are identical. This is also the case in distribution of hogs. For example, when live hog production does not develop very rapidly, places with an inadequate supply of pork should suitably curtail rural sales to assure supplies to cities and to industrial and mining areas, and the country's export requirements. In addition, cities should institute limited or fixed supply and control consumption to moderate the conflict between cities and countryside. This is what is meant by mutual assistance and mutual understanding between cities and countryside. When production develops fairly well, where there are copious supplies of pork, cities should liberalize supply and take active measures to expand sales using sales to spur procurement and using procurement to spur production. As production develops and life improves, the peasants will also require a little more meat, and this is likewise mutual support between cities and the countryside.

3. In the procurement of live hogs, prices should be arrived at on the basis of quality, and the principle of a premium price for premium quality applied. In order to protect production, protect sources of supply, and assure product quality, formulation of procurement specifications and standards on the basis of different areas and different varieties is necessary. However, it is imperative that specifications and standards be proper. If, for example, the minimum weight for procurement is overly low and live hogs are just at the point where they are growing flesh quickly and have much accumulated fat, not only will the

dressing rate be low and society's resources be wasted, but live hog production will not benefit. If the minimum weight is too high, requiring that large fattened hogs be raised before they can be purchased, not only will much concentrated feed be used up to the detriment of marketable supplies, but likewise neither procurement nor supply will benefit, and development of live hog production will be impeded at the same time.

In determining grade specifications for procurement of live hogs, two methods may be used as follows: One is to "set dressing rate grades and to figure the price in terms of gross weight," i.e., to determine the grade on the basis of gross weight of live hogs and the proportion of pork produced. For hogs with a high dressing rate, the gross weight per unit price will be high; for hogs with a low dressing rate, the gross weight per unit price will be low. Today, most places in the country use this method. It has the following features. It helps carry out the principle of arriving at price on the basis of quality, a premium price being paid for premium quality, while avoiding losses in weight or death of hogs as a result of overfeeding, thereby looking after the interests of the country, collectives and peasants all at the same time. However, such a method places fairly high technical requirements on procurement personnel, and under present circumstances where grading at the time of procurement is done by looking and feeling, unless personnel are fairly skilled, grading will be prone to inaccuracy. Thus, either peasants will suffer or the country will lose. Therefore, it is necessary to strengthen the ideological and political training of procurement personnel and to raise their technical competence in grading so there will be no low grading and driving down of prices nor high grading and driving up of prices. One way is to "set grade on gross weight and figure price on gross weight," i.e., to determine grade on the basis of the gross weight of live hogs. Right now a small number of places use this method. It is straightforward and easy to use, but does not readily solve the problem of overfeeding; thus, it does not readily reflect the principle of arriving at price on the basis of quality, a premium price for premium quality.

4. Need to bring into play the guiding role of state-owned businesses. Live hogs and pork are important commodities that bear on the national economy and the people's livelihood. State-owned business are the main channel for dealing in live hogs and pork, and consequently must occupy a leading position in amount of business done. They also play a leading market role as a result of plan arrangements and procurement prices in order to stabilize markets and stabilize prices. In addition, when it comes to the proportion procured versus the proportion retained, i.e., the hogs left to the peasants, or the surplus live hogs remaining following fulfillment of assigned procurement quotas, it is necessary to permit peasants to slaughter for their own consumption or to slaughter for shared consumption, and to initiate dealings through numerous channels in accordance with policy regulations to enliven markets.

The state-owned business sector should actively coordinate with industrial and commercial administration and management, health immunization, and tax departments to carry out under leadership of the local party and government a reorganization of collective businesses and individual small retailers dealing in live hogs and pork. They should strengthen management over procurement and sales prices, planning, meat hygiene, tax collection, business scope and business area,

oppose speculation and profiteering, supervise their strict carrying out of pertinent policies and laws formulated by the country, and correctly bring into play enthusiasm for country fair market trade and many channels.

(Shi Xuan [4258 6513])

AGRICULTURAL PRODUCTION TECHNICAL MEASURES

[Original source pp 158-159]

[Text] Promotion of Shandong Province's High Yield Peanut Farming Techniques

Shandong Province is China's principal peanut producing region. Not only does it cover a large area and produce high yields, but it makes a great contribution to the country. During the past 2 years, it has annually provided more than one-third of the country's output of edible oil, and is known as the "Shandong oil depot."

In 1980, the peanut growing area of Shandong Province covered 9.36 million mu. Yields were 300 jin per mu, and gross output was 28,086,000 dan, an all-time high. This was a 49 jin per mu rise over the 1979 yield, and a 32.5 percent increase in gross output. Despite serious drought during 1981, the province's 10,033,000 mu of peanuts still produced yields of 277 jin per mu and an output totaling 27.79 million dan making 1981 the second highest bumper harvest year. In addition, some high yield models appeared. Inspection by provincial, prefecture and county departments concerned showed the number of high yield fields with yields of more than 1,000 jin per mu to have been 58 in 1981 covering an area of 214 mu, a 95.4 mu increase over 1980. This included 18.2 mu of fields with a yield of more than 1,200 jin per mu. In 1981, five production brigades had yields of more than 800 jin per mu, each field plot of more than 100 mu being a bumper yield plot.

The main reason for Shandong Province's high peanut yields, apart from reliance on policies, has been strict attention to promotion and implementation of key technical measures.

1. Deep plowing and preparation of the land to change the soil to lay a good foundation for high peanut yields. Peanuts are a crop requiring deep plowing. They blossom above ground and set fruit underground. They require a thick and loose soil layer, a friable plow layer, and good soil fertility. Inasmuch as most of the peanut fields had a shallow soil layer of low fertility that were unable to withstand drought or waterlogging, the broad masses in Shandong Province's peanut growing areas took action to plow deeply and change the soil. During winter or early spring, they deeply plowed or deeply dug peanut fields (usually to between 0.8 and 1 chi) to make the loose layer of soil deeper and to improve the soil's ability to store water and retain fertilizer. Statistics show a total of 5.87 million mu throughout the province as having been deeply plowed and prepared during 1980. This was 78 percent of the spring peanut growing area. In 1981, more than 6.5 million mu were deeply plowed or dug, a 630,000 mu increase over the previous year. In addition, sand was pressed into the clay

soil, and clay and weathered phosphate rock was pressed into sandy soil to improve the soil. Tests show that field plots that had been deeply plowed and their soil improved were remarkably able to withstand drought during summer drought, and able to maintain normal growth and development of peanut plants. Tests done on samples taken by the Shandong Peanut Institute showed Xuzhou 68-4 plants to reach a height of 40.3 centimeters in prepared and improved soil versus 16.4 centimeters in unprepared and unimproved soil. Individual plants produced 8.5 mature peanuts and 15.8 immature ones, an increase of 4 and 14 respectively. Survey shows that deep plowing and deep digging can increase yields by between 15 and 30 percent.

Peanut fields in hilly areas guarded against waterlogging on one side by combining preparation of the soil with digging ditches below dammed ponds, digging ditches from the waist of the hills, and digging field ditches to provide the peanut fields with three kinds of run-off ditches so that water would not accumulate even when it rained steadily, and so that water would not stagnate after heavy rains. This markedly increased peanut yields. Surveys conducted at 47 sites in five counties of Yantai Prefecture between 1973 and 1978 showed that when waterlogging on one side was prevented, yields of peanuts in shells increased by 110.5 jin for a 38.1 percent increase.

2. Selection of superior varieties of peanuts for promotion. During the 1950's and 1960's several varieties of peanuts, including late maturing large peanuts and hot weather peanuts, predominated. Late maturing peanuts accounted for more than 70 percent of the total area sown, but they had degenerated rather seriously. Since the 1970's, early and intermediate superior varieties have been selected for promotion and introduced, including Baisha 1016, Hua 17, Xuzhou 68-4, Linhua No 1, and Hua 37. Statistics show expansion of the superior variety area to 7.7 million mu or 82 percent of the total growing area by 1980. In 1981, the superior variety growing area increased to 8.5 million mu, 80,000 mu more than in the previous year. Early and intermediate superior varieties have the advantage of a short growing season, early blossoming, a high fruiting rate, suitability for close planting, tolerance for nitrate ground water, and high potential for increased yields. In general, they produce between 10 and 20 percent more peanuts than late maturing varieties. Surveys show the emergence during the past 2 years of fields yielding more than 800 jin per mu mostly from the growing of Xuzhou 68-4, Linhua No 1, Hua 17, Hua 37 and Haihua No 1 superior varieties. This fully demonstrates the tremendous potential for increased yields of these superior varieties. In their promotion of superior varieties, all areas made sure to purify and rejuvenate superior varieties and to use sensible crop patterns.

3. Increased fertilization. Measurements show a need for between 5 and 6 jin of pure nitrogen, 1 jin of pure phosphate (P_2O_5), and between 2 and 3 jin of pure phosphate (K_2O) for each 100 jin of peanuts produced. Since most peanut fields were very infertile, and particularly lacking in phosphate, the broad masses everywhere devoted considerable attention to fertilizing the peanuts. In 1981, base fertilizer was added to about 95 percent of the spring peanut area, mud fertilizer being used at a rate of about 5,000 jin per mu. Phosphate fertilizer and nitrogenous fertilizer was applied to an area of more than 6.6 million mu, more than 700,000 mu more than during the previous year. Practice has shown

that increasing the nitrogen chemical fertilizer and phosphate fertilizer in base fertilizer and starter fertilizer used on infertile fields or even on fields of intermediate or high fertility promotes the growth of sturdy and bushy peanut seedlings, early blossoming, and an improved fruiting rate. Experiments conducted by the Shandong Peanut Research Institute between 1977 and 1979 in 21 key counties showed the application of between 15 and 30 jin per mu of ammonium sulfate increased peanut yields by an average 41.3 to 68.8 jin per mu, and that for each jin of nitrogenous chemical fertilizer, yields increased an average 2.3 to 2.7

jin per mu. Addition of phosphate fertilizer to increase peanut yields was successful. Experiments conducted at 200 sites in 32 counties throughout the province showed an average 18.7 percent increase in yields from 20 to 30 jin per mu of phosphate fertilizer, yields of peanut pods increasing 2.7 jin per jin of phosphate fertilizer.

Most places applied fertilizer several times at different layers of the soil or made concentrated applications in order to increase effectiveness.

4. Improvement of sowing quality, promotion of the soaking of seeds to force sprouting, and efforts to obtain full stands from a single sowing. A full stand of seedlings is an important requirement for increasing peanut yields. However, spring drought frequently occurs during the spring sowing season with the result that every year between 10 and 20 percent or as much as 30 or 40 percent of seedlings do not develop. This hurts efforts to increase peanut output. As a result of many years practice, the masses have figured out a set of measures to protect peanut seedlings such as early preparation of the soil to conserve moisture, good seed selection, and soaking of seeds to force sprouting. Of particular importance is the selection before planting of first and second grade peanuts for use as seeds, making sure to soak them to force sprouting, and sowing them when there is sufficient moisture to get a full stand from a single sowing.

5. Clearing soil from around plants and reducing irrigation for a time to encourage healthy growth and resistance to dry weather. Clearing soil from around plants and reducing irrigation for a time is an effective way in which to increase yields that the masses have distilled from many years of practice with production. Clearing of soil from around plants is done on about 50 percent of the total spring peanut growing area in the province. When the peanut seedlings have grown to a generally even height, the soil is pushed away all around the young seedlings so that the two cotyledons appear. Tests carried out at 80 locations (or times) in 18 counties showed increases in yields of peanuts in shells averaging 47.4 jin per mu for peanuts from around which the soil had been cleared versus those from which the soil had not been cleared. This was a 12.9 percent yield increase. Clearing of soil from around plants and reducing irrigation for a time to encourage healthy growth and resistance to dry weather is done for the following reasons: First, the clearing of soil from around seedlings promptly releases the first pair of side branches from the soil, promoting their early growth and development, increasing effective blossoming, and improving the fruiting rate. Measurements taken in the course of experiments show that after removal of the soil, the blossom buds located at the base of side branches differentiate and become sturdy. The total number of blossoms are 7.4 percent greater than when soil has not been removed from around the plants,

and the effective number of blossoms increases by about 10 percent. In addition, the clearing of soil from around plants and reduction of irrigation for a time also causes main roots to penetrate the soil more deeply and the number of side roots to increase for the development of a root system that can withstand drought and take in fertilizer better. Third the removal of soil from around plants gets rid of grass that shields plant roots early and reduces damage from aphids and weeds. It helps normal plant growth and promotes sturdy growth of numerous branches on the plant, setting the stage for bumper yields.

6. Prevention and control of diseases and insect pests. During the past several years, experimental research by scientific research units on nematodiasis, stem rot, leaf spot, grubs, and aphids, which regularly damage peanuts seriously, has found prevention and control methods. For example, application to the soil of a 4 to 6 jin aqueous solution of 80 percent dibromochloropropane at a rate of 150 jin per mu between 10 and 15 days in advance of sowing is between 80 and 99 percent effective in the prevention of nematodiasis.

Mixing of seeds or soaking of seeds before planting in 50 percent or 25 percent carbendaxol using 0.2 to 0.5 percent of the seed volume is more than 90 percent effective in prevention of stem rot. Carbendaxol is very effective in prevention of peanut leaf spot when used in late July or early August.

Grubs are the most serious insect pest damaging peanuts. Use of a combination of measures centering around controlling mature grubs by picking them off of plants and chemical prevention can effectively control serious damage from grubs.

(Huang Zhenbu [7806 3791 1009])

Overall Zoning of Material Rural Energy Resources

[Original source pp 166-168]

[Text] Rural energy is the material foundation for development of agricultural production and improving the peasants' standard of living, and is a requisite for the modernization of agriculture. Energy is extremely short in rural China and solution to this problem is required urgently. In this regard, the State Agricultural Commission organized departments concerned to study and work out a zoning of rural energy.

Overall zoning of national rural energy resources was founded on a survey and zoning of individual energy sources including methane gas, firewood forests, small coal mines, small hydroelectric power generation, solar energy, wind energy, and geothermal energy. A fairly simple grading system was applied on the basis of uniform organizational principles and methods and all-around analysis, a division into two grades being made. One grade reflected the degree of abundance or shortage of rural energy sources. Counties were used as statistical units, and an average of 400 and 800 kilograms of standard coal per capita was used as a standard for distinguishing between the two grades for rural energy resources whether methane gas, firewood forests, small hydroelectric power generation, or small coal mines. Using the foregoing four major energy sources as a basis, collation and category by category zoning were done. The entire country was divided into three grade 1 zones designated by the Roman numerals, I, II, and III. Grade one zones were broken down into three grades to show the differences between one region and another in the quantity of rural energy resources. Grade two zones were an overall assessment based on the amount of various kinds of energy resources in each grade 1 zone, the extent of their exploitation and use, results of use, and the extent to which they are needed. Preponderant energy resources were used as a principal indicator, secondary ones being used as supplementary indicators to delineate the various types of energy resource combinations. There were a total of 6 second grade zones, the energy resources in them represented by letters of the alphabet as follows: A = methane gas; B = firewood forests; C = small coal mines, D = small hydroelectric power generation; E = solar energy; F = wind power; and G = geothermal energy.

Average per capita consumption of rural energy in most parts of China is greatest in areas that have an ordinary amount of energy or an abundance of energy. The major energy-short areas are the Huang-Huai-Hai Plain and Nei Monggol in the loess highlands, the semi-farming and semi-pastoral region at the confluence of the three provinces of Liaoning, Jilin, and Heilongjiang, the Sichuan Basin

and northern Guizhou, and along the border between Guangdong and southern Guangxi, population is dense or energy is in short supply.

National Rural Energy Overall Zoning and Grading System

Grade 1 Zone	I Energy-abundant Zone	II Ordinary amount of Energy Zone	III Energy-short Zone
	I B-D	II B-F	III B-A-F-E
Grade	1 B-F-E	II B-C-A	III B-C-E
	1 D-B-C	II D-A-B-C-G	III A-B-E
2	1 D-B	II A-D-B	III A-F
	1 D-B-C-G	II A-D-C-B	III C-B
Zone	1 D-B-A-C-G	II A-D-F-G	III D-B-F-E
	1 D-C-E	II D-B-E	III A-D-B-G
	1 C-B-E-F	II D-B-C-E-F	III A-D-C
		II D-A-B	III B-E-C

In 10 of the 26 grade 2 zones, small hydroelectric power was predominant, and in 13 zones energy came from a combination of small hydroelectric power generation and firewood forests. This reflects an objective law of co-existence of water power resources and forest tree resources. China's southern plains areas are also suited to priority development of methane, and small coal mine resources are dispersed throughout 13 grade 2 zones. This shows that exploitation and use of China's rural energy resources must suit general methods to local circumstances and use a multiple reinforcing structural form.

Analysis of the national rural energy consumption picture and structure shows the existence in 1979 of two prominent problems in rural energy consumption in China. One was inability of supply to meet demand, with a particularly serious shortage of energy for use in daily life as a result of which not only were large amounts of farm crop stalks and stems burned, but forests were cut down and the vegetation cover destroyed resulting in soil erosion, windblown sand and drought, and an upset of the agricultural ecological balance. About 80 percent of total rural energy consumption is for use in daily life, and 20 percent is used for production. Of the energy used in daily life, 86 percent is biological in nature, which reflects the true situation of the use primarily of agricultural crop stalks and stems and firewood for energy in China's rural villages. Second was low thermal efficiency. Methods of using energy were irrational. In the use of energy for daily life, energy of biological nature and coal were not processed, but burned directly occasioning very great waste. It has been estimated that in 1979 overall thermal efficiency of biological energy was only 12-15 percent. Considerable waste also existed in consumption of energy for agricultural production and by commune and brigade enterprises. Thus, strengthening of rural energy management, improvement of energy utilization methods, and promotion of boilers

and stoves that conserve coal and firewood are important means of solving the current rural energy shortage.

China's rural energy may be characterized as follows: Many kinds, and large reserves, but a small average amount per capita. It is mostly biological energy and it is unevenly distributed. Of the country's several major kinds of rural energy, not only is energy of biological origin widespread, but small coal mine and small hydropower resources are also very plentiful. Analysis of a 1979 survey of national rural energy resources showed 59 percent could come from exploitation of methane gas, 13 percent from firewood, and 14 percent each from the annual output of small coal mines and small hydropower generation. Solar energy, wind energy and geothermal energy were also fairly widespread. In most places in the country, total solar radiation amounts to between 1.4 and 2 million kilocalories per square meter per year, and two-thirds of the country receives more than 2,200 hours of sunshine annually. Wind energy resources are plentiful in northwestern China. Nei Monggol, most parts of northeastern China, on the Liaodong Peninsula, the Shandong Promontory, and along the southeastern coast. Wind speeds of more than 3 meters per second are attained an average of more than 4,000 hours each year. Wind speeds of more than 6 meters per second are attained more than 1,500 hours. Energy intensity averages 150 -- 200 watts per square meter. Natural or man-made outcroppings of terrestrial heat occur at more than 2,700 places, and the annual heat flow has been estimated to reach 5.24×10^{13} kilocalories. China's southeastern seacoast has plentiful tidal energy. Kinds and amounts of rural energy vary from place to place and are usually dispersed, intermittent, and renewable. To a very large degree, they correspond to dispersed rural use of energy, and their local exploitation for use is a favorable factor.

(Liang Yongyi [2733 3057 5030] and Wen Lan [2429 1526])

Animal Husbandry

[Original source p 177]

[Text] Active Development of Lean Meat Hogs

China has a long history of hog raising and is the country in the world that raises the largest number of hogs and has the most plentiful hog species. However, since the fattening of hogs entails first building up a frame followed by forced fattening in the late stages, this means a protracted feeding period, much fat in the dressed weight, and little lean pork. It takes 10 to 12 months from the birth of a hog to forced fattening and removal from inventory, at which time they average about 150 jin in weight, the fat on their back is more than 4 centimeters thick, and the dressed weight outturn of lean pork is about 40 percent. Most hogs are either of the fatty type or are equally meat and fat.

With the rapid advance of science and technology and of industrial and agricultural production, the people's standard of living has steadily risen. Not only has demand for pork risen greatly, but quality requirements have also become increasingly high. In cities and industrial and mining areas, in particular, where a considerable amount of pork is consumed, there is an urgent demand for more lean pork.

Furthermore, in economic terms, production of lean meat is more economical of feed than production of fat. Experiments have proved that the energy consumed to precipitate fat in a hog's body is almost double that required to precipitate protein. Hogs, like other animals, produce flesh in the early stages and grow fat later on. The raising of meaty hogs can greatly shorten the fattening period, reduce consumption of carbohydrates, increase the removal from inventory rate, hasten turnover in production, and turn out two batches of fattened hogs each year.

No matter whether looked at in terms of current or long-term needs, development of lean pork hogs is an inevitable trend in the hog raising industry. Experience everywhere shows that the raising of lean hogs requires not only formulation of procurement standards and price policies but also attention to the following technical measures:

1. Importation of foreign lean meat stud hogs for economic hybridization with China's local superior hog varieties. This is a way to develop lean meat hogs that achieves greater, faster, better, and more economical results. For example, the crossing of Landrace stud hogs with Beijing black sows produces a first generation hog with a lean meat outturn of about 50 percent. If a ternary cross is then made using Duroc or dabai [1129 4101] stud hogs, the dressed weight lean meat outturn will be more than 50 percent.

2. Selection of places in China for the selective breeding of hogs with a fairly high lean meat outturn. For example, selective breeding of Tai Hu hogs, Jin Hua hogs, northeastern folk hogs, Beijing black hogs, Shanghai white hogs, San Jiang white hogs, and Zhejiang white hogs should be carried out at designated pig farms for a step by step improvement of their lean meat outturn. These selectively bred hogs could then be used as the female parents for further hybridization with lean meat type boars. This would both make full use of the country's fine hog species and could accelerate development of lean pork hogs.

3. Intensification of the selective breeding of superior varieties of foreign lean meat hogs now in China and increase in their propagation. During the 1960's China began to import Landrace hogs from Sweden, France, Holland, the United Kingdom, and Japan. In recent years, it has imported British dabai hogs, and Danish Landrace hogs, and most recently it has imported small numbers of Duroc and Hampshire hogs from Japan, Hungary, and the United States. These hogs are world renowned lean meat superior breeds. However, because of a lack of scientific feeding and care, and failure of selective breeding to keep pace, some of the Landrace hogs that were first imported have shown decline in their lean pork outturn. In order to improve steadily the quality of these hogs and to increase their numbers, plans should be drawn up for the selective breeding of various breeds of hogs at designated hog stud farms, and planning should be done to provide superior breed lean meat boars to artificial insemination stations for breeding.

4. Vigorous promotion of centrally provided semen for artificial insemination of sows at the county level, lean meat breeds of boars being centrally provided to insemination stations, use of the experiences of Jiangsu Province in supplying semen centrally, with a single boar being able to service between 800 and 1,000 sows. This can more effectively make use of lean meat breed boars and hasten development of lean meat hogs.

5. Good solution to the fodder problem. Lean meat hogs are characterized by rapid growth during their early life, and they require better fodder than fat hogs. Experiments have shown that lean meat hogs require fodder with a 3,000 to 3,300 kilocalorie energy content and a 14 to 16 percent protein content. Satisfaction of their nutritional requirements is a requisite for development of lean meat hogs. Thus, development of lean meat hogs requires ample fodder, and particularly protein fodder.

In addition, animal husbandry research units, agricultural institutions of higher learning, and production departments can cooperate closely to organize experiments in the hybridization of some lean meat hogs and in gauging carcasses as well as experiment on fodders and feeding to improve the lean meat outturn rate.

(Chen Shutian [7115 2579 3944])

Feeding of Oil Cake to Livestock. Overall Use

[Original source pp 177-178]

[Text] China has more than 20 billion jin of oil cake resources of various kinds, and use of cottonseed cake and rapeseed cake as livestock feed holds greatest prospects for development. These two kinds of bean cake generally have a 30 to 40 percent crude protein content and almost 3,000 kilocalories of digestible energy per kilogram. They are an important source of protein feed. Were half of the cottonseed and rapeseed cake produced in the country (7 billion jin) to be used as livestock feed, between 15 and 20 percent more feed would be available each day, and about 32.5 to 40 billion jin of blended livestock feed could be made. At a rate of 500 jin of blended feed per hog, this would solve the protein feed problem for between 65 and 80 million hogs, or between 30 and 40 percent of fattened hogs removed from inventory in the country.

A winter of 1979 conference of 12 provinces and municipalities convened in Haian County, Jiangsu Province by the Ministry of Agriculture and the Ministry of Grain for an exchange of experiences on the detoxification of cottonseed and rapeseed cake for use as livestock feed aroused the serious interest of all jurisdictions. Quite a few other provinces subsequently held other conferences for the exchange of such experiences, and on-site conferences to promote development of this work, and the amount of cottonseed and rapeseed cake used in livestock feed has increased over the years. During 1981, 93.5 million jin of cottonseed and rapeseed cake was used in livestock feed in Shanghai's suburban counties. This was 42 percent of gross output and a 41.7 percent increase over 1979. In 1981, 60 percent of the gross output of rapeseed cake and 70 percent of the gross output of cottonseed cake was used in Jianyang County, Sichuan Province. In Haian, Rugao, Dongtai, and Jiangdu counties in Jiangsu Province, use of cottonseed and rapeseed cake approached or was greater than 50 percent of gross output.

The principal measures all jurisdictions adopted to promote use of the "two seed-cakes" were as follows:

1. Propagandizing the principles underlying scientific raising of hogs and chickens and methods of detoxifying the "two seedcakes." Practice has demonstrated that when the protein level of daily feedings in rural villages is low, mixing in of a certain amount of the "two seedcakes" not only can increase hogs daily weight gain and improve chickens egg output, but it can save on daily grain consumption for a striking rise in economic results. In 1981, Silian Commune in Songjiang, County, Shanghai Municipality used 500,000 jin of cottonseed cake

that it had produced itself plus 300,000 jin of cottonseed cake that the county provided to feed hogs, thereby effectively increasing the nutritional value of its livestock feed.

Comparison of the three years following 1979 showed an average 6.75 head increase in the number of surviving piglets per littering sow, and a 10.88 jin weight increase in weaned piglets. Fodder consumption proportionately declined 1.87 jin; the average weight of hogs sent to market increased by 34.5 jin; and the live hog removal from inventory rate increased 34.5 percent. Average annual profits from collective hog raising throughout the commune increased by 48,700 yuan. As a result of rational use of the "two seedcakes," scientific blending of feed, and improved management. 4,389 laying hens at the Fengxian County Poultry Farm produced 117,300 jin of fresh eggs during the year for an average 26.7 jin of eggs per hen per year. The fodder to egg ratio was 3.11:1, and net profit for the year was 5.41 yuan per hen.

In addition various methods of detoxification and methods for limited feeding of the two seedcakes were promoted as rural economic conditions and technical factors permitted.

Frequently used methods of detoxifying cottonseed cake are as follows: Ferrous sulfide -- quick lime solution detoxification, ammonium sulfate -- quick lime solution detoxification, boiling to detoxify, and continuous immersion and removal in a mixture of naphtha and ethyl alcohol to detoxify. Commune methods used to detoxify rapeseed include the following: burying, steaming, boiling, soaking in water for fermentation, or composting to ferment. Limited amounts to be fed should be determined for different animals and on the basis of the free gossypol content. In general feeding of slaughter hogs and chickens with cottonseed cake should be 20 percent of total daily feed. It should be no more than 10 percent for sows and laying hens.

2. Good handling of the conflict between fertilizer and livestock feed. Shanghai Municipality solved the problem of manure turnover by following the experiences of its livestock feeding units. In recent years, it has vigorously promoted the experiences of Guangming Commune in Fengxian County, which for 10 years has used the "two seedcakes" for fodder on the one hand while collecting and producing fertilizer on the other. It has also proceeded from the realities of sources of fertilizer in each production team to set a suitable ratio for use of the "two seedcakes" as livestock feed. It has gradually promoted these experiences by seeking truth in facts. Thus, it has both solved the conflict between the use of seedcakes for fertilizer and for livestock fodder, and has advanced increased agricultural production and development of animal husbandry.

3. It has expanded the amount of blended livestock feed processed. Large scale use of the "two seedcakes" requires reliance on the broad masses of commune members. Animal husbandry departments in many prefectures in Sichuan Province have made pre-mixed livestock feed from the "two seedcakes" plus minerals, vitamins, and silkworm chrysalises, and they have provided commune members with the recipes for making livestock feeds so that commune members can mix their own feeds. Commune members have welcomed this. Jiangsu Province's animal husbandry departments have coordinated closely with grain departments to operate a livestock

fodder industry. They have expanded the amounts of the "two seedcakes" used, raising their ratio in mixed feeds to 12.8 percent, and they are gradually turning around the situation in which seedcake residues have been used directly as fertilizer.

4. Further implementation of policies. The Shanghai Municipal People's Government has ruled for "active encouragement of the use of cottonseed and rapeseed cake to feed hogs first, using it to fertilize the fields thereafter. It is permitted to use chemical fertilizer and livestock feed in exchange for cake fertilizer; it is permitted to retain cake fertilizer as fodder for raising hogs; it is permitted to purchase cake fertilizer at an added price for use as extra livestock feed." By way of using policies to arouse the enthusiasm of the broad masses of cadres and commune members to use the "two seedcakes" as livestock feed, some provincial people's governments have decided to allot a certain amount of chemical fertilizer in exchange for the "two seedcakes." Tianmen County in Hubei Province exchanges 2 jin of mixed livestock feed or 1 jin of urea for 1 jin of cottonseed cake, and has already made exchanges for 1.6 million jin of cottonseed cake to be used as livestock feed.

(Yu Yefan [0151 0048 0416])

TOPICAL SURVEY ON AGRICULTURE

[Original source pp 285-287]

[Article by Dong Shaojie [5516 4801 2638], Ministry of State Farms and Land Reclamation]

[Text] Survey of the Food Industry in the State Farm and Land Reclamation System in Zhejiang and Fujian Provinces

We conducted a survey of state farm and land reclamation food industries in Zhejiang and Fujian provinces between late November and mid-December 1981, and now we have summarized below these industries' principal features and methods of operation as well as our own views on them.

Characteristics of the State Farm and Land Reclamation Industries in Both Provinces

Zhejiang and Fujian provinces state-owned farms are located along the southeast coast where the climate is temperate and humid, and rainfall copious. Both the farming industry (grain, oil-bearing crops, tea, sugar, fruits, and special cash crops) and the breeding industries have developed fairly rapidly here providing plentiful resources for food industries. The state farm and land reclamation food industries in both provinces share common features in the way they do business and the composition of their products.

1. Large proportion. In Zhejiang Province, the state farm and land reclamation system has 44 food plants accounting for one-third the number of all state farm and land reclamation plants in the province. The state farm and land reclamation food industry had an output value in 1980 that was 60 percent of the gross output value of state farm and land reclamation industries, and in 1981 it became more than 65 percent. The profit ratio was even somewhat higher. In Fujian Province, the state farm and land reclamation system has 104 food plants or almost half the number of all state farm and land reclamation plants in the province. Their output value is 72 percent the gross output value of state farm and land reclamation industries, and profit ratios are higher. The food industry is the mainstay of state farm and land reclamation industry in both provinces.

2. Rapid growth. During the past 3 years, Zhejiang's state farm and land reclamation industry has grown very rapidly increasing 35 percent between 1978 and 1979, 61 percent between 1979 and 1980, and 40 percent between 1980 and 1981, with the food industry growing by 40 to 50 percent yearly. Profits likewise increased rapidly. In Xiaoshan and Yuhang counties, where food industries are concentrated, growth was even more rapid. During the past 2 years, food industries in Fujian Province have also grown by more than 15 percent.

3. "Hot selling items." One hot selling item is tea. In 1981, Zhejiang produced 70,000 dan of tea with an output value that was 15 percent of gross industrial output value. Fujian produced 57,000 tons of tea whose output value was 40 percent of gross industrial output value. Second was dairy products. Output value of Zhejiang Province's state farm and land reclamation dairy products was 10 percent of the province's gross industrial output value. It produced more than 70 percent of the province's powdered milk output. Output value of Fujian's dairy products was also 10 percent of the province's gross industrial output value. Virtually all of the dairy products in Fujian Province were processed by the state farm and land reclamation system. Third was alcoholic beverages. In 1981, Zhejiang Province produced 7,000 tons of yellow spirits [made from yellow rice or millet] and white wine [made from corn or gaoliang]. Fourth was sugar. Fujian Province annually produced 6,000 tons of semi-refined crystalline sugar accounting for 10 percent of state farm and land reclamation industrial output value. Zhejiang Province's output of sauces of various kinds was also substantial.

4. "Mainstays." Both provinces set up a group of mainstay plants to produce tea, dairy products, food, and alcoholic beverages. Annual profits from these plants reached 100,000 to 300,000 yuan. In 1981, the Xiaoshan Brewery produced more than 7,000 tons of beer and made about 800,000 yuan in profits. It is predicted that output for 1982 will be more than 10,000 tons. The Hangzhou Experimental Tea Farm has three superfine tea plants whose output value from the processing of tea amounts to 6 million yuan.

5. Famous brands. Zhejiang jasmine teas such as Zhenmei, and steamed dark green tea, and Fujian's oolong, tieguanyin, huangdan, and cassia are all famous teas renowned in China and abroad. "Red Flag Brand" milk powder from the Yuhang Dairy Products Plant in Zhejiang has taken first place in the province, and five spices pickled rutabagas from Xiaoshan in Zhejiang and Tongkou rice flour from Fujian are also famous brand products. There are also some first rate food products.

Principal problems today are as follows: First is a shortage of major raw and supplementary materials. Zhejiang mostly lacks packaging materials for sugar, edible oil, grain, coal, and liquor bottles. Fujian has a shortage of milk supplies, depending on individual households for half, on collectives for 43 percent, and on state farm and land reclamation milk cows for only 7 percent. Yields are low and inconsistent. Second is that some plants have large capacity but insufficient processing. Third is a shortage of funds. There is a general sense that investment is low and circulating capital is in short supply. Fourth is weakness in leadership and technical forces that do not meet needs for development of the food industry.

Some Experiences in Developing State Farm and Land Reclamation Food Industries

During the past 2 or 3 years, state farm and land reclamation departments and numerous farms in both Fujian and Zhejiang provinces have proceeded on the basis of their own situation in resources and market needs for active development of food industries. They have achieved much and accumulated some good experiences which may be capsulized as "first, readjustment; second, partnerships; third, restructuring; fourth, innovation; and fifth, upgrading."

"Readjustment." This means readjustment of the structure of trades and industries and of product orientation, placing the emphasis on a gradual shift toward development of processing of farm, forestry, animal husbandry, sideline occupation, and fishing industry products, and particularly vigorous development of food industries so that state farm and land reclamation industries will take a course of healthy rapid growth. For example, both provinces have used favorable natural conditions to develop the growing of tea and jasmine flowers and the processing of tea, with the result that superfine tea output has climbed tremendously. Zhejiang has 12 superfine tea plants. Virtually all the dried, unfired tea leaf produced on farms is refined in the province itself into various kinds of green teas and jasmine tea. Fujian Province has 29 superfine tea plants capable of processing 120,000 dan. Processing of crude tea improves quality and the marketable rate, and income from it is from once again to more than twice as much as for crude tea. In the readjustment of product structure, more well-known tea varieties and high quality teas have been produced. Output of jasmine tea by the Hangzhou Experimental Tea Farm was 2.6 times greater in 1981 versus 1980. Between 80 and 90 percent of the output of famous teas such as tieguanyin and huangjingui from Fujian Farm in Lutan, Fujian Province was first and second quality tea. Among dairy products, output of extract of malt and milk, pasteurized milk, and famous brand milk powder increased. Output of distilled white spirits dropped somewhat while output of distilled yellow spirits remained constant. Output of liquors, cordials, bubbly wines, and beer increased. Output of fine quality candies and high quality cakes increased. Semi-refined reddish sugar crystals gave way to white sugar among machine refined sugars. As a result of readjustments, markets for goods, output, output value, and profits all increased.

"Partnership." This means taking a joint path to make best use of individual advantages. Zhejiang Province created numerous forms of partnerships for fairly good solution to problems encountered in getting raw and supplementary materials, funds, energy and markets for its food industries, thereby increasing both output and earnings. The Xiaoshan Brewery was built by the Mianma Experimental Farm and had a capacity of only 500 tons at the outset. Later on the provincial and county state farm and land reclamation bureaus and seven farms in Xiaoshan County jointly invested and supplied the brewery with barley and rice. In 1981, the brewery was expanded to a 5,000 ton capacity and in 1982 to a capacity of between 12,000 and 13,000 tons. The Hangzhou Experimental Tea Farm and Tongqi Commune in Xiaoshan went into partnership to operate a jasmine tea processing plant. The commune supplied the jasmine flowers, plant buildings and the workforce, and the farm supplied the tea plus technical and managerial personnel, each party investing 40,000 yuan with profits and part of the products being divided proportionally. In 1981, they produced 2,390 dan of jasmine tea, and earnings of both the commune and the farm increased.

"Restructuring." This means restructuring of antiquated equipment and production technology, and restructuring of antiquated management methods, with promotion of economic responsibility systems. Today virtually all the superfine tea plants in both provinces use machine processing in a change away from native methods of hand kneading and firing in kettles, with the result that both output and quality have increased greatly. Gunong Farm in Longqi Prefecture, Fujian switched from indigenous refined red sugar to machine refined white sugar. It has the capacity to crush 300 tons of cane daily and its sugar outturn rate has

risen from 10.46 to 10.96 percent for a 145,000 yuan per year increase in income. It has also built a 2,000 ton capacity fiber board plant that uses bagasse to produce fiberboard.

In the realm of restructuring the management system and distribution methods of "eating out of a large common pot," Yutang County's State Farm and Land Reclamation Bureau instituted contracting sole financial responsibility by plants, and within plants, a "fixed quota contracting and bonus" responsibility system was put into practice, with all profits above norms being retained by the plants. In turn, the plants distributed these profits proportionally among production funds, collective welfare funds and bonuses for an arousal of enthusiasm for production and an increase in economic effectiveness. The labor productivity rate for all personnel in industry was 6,425 yuan in 1980 and reached 7,931 yuan in 1981 for a 23 percent increase. In 1980 each staff member and workers created 1,016 yuan in profits, and 1,158 yuan in 1981 for a 14 percent increase. The profit rate per 100 yuan of output value was 6.4 percent and reached 13.97 percent in 1980. It took 127 days for funds to turn over in 1979; 120 days in 1980; and 80-odd days in 1981. After the Fuzhou Municipal Dairy Products Plant instituted a personal responsibility system and improved its milk bottling equipment, the milk bottle breakage rate dropped greatly. Losses fell by 72,000 yuan within a year though only slightly more than 20,000 yuan had been spent for the improved equipment.

"Innovation." This means the creation of new products, new styles, colors, and designs, and creation of fine quality and name brand products to improve product quality. The Xiaoshan Brewery produces a fairly large amount of "Qianjiang Brand" beer of rather good quality. It ranks among the top several of 15 breweries in Zhejiang Province. The Hongken Farm's pickled products plant has increased varieties from just a few to 17, several of which have become famous locally and are sold in Hangzhou and seven nearby counties and cities. The productivity rate for all personnel is 10,000 yuan, and profits created per capita average 2,000 yuan. Since 1980, Fuzhou City's dairy products have increased from four to more than 30 kinds, which are sold in the province itself as well as in east China, southeast China, and in some provinces and cities of northeastern China. Between 1978 and 1981 output value increased 40 percent and profits showed a 2.5 fold increase.

"Upgrading." This means upgrading output quality and upgrading the reputation of goods, upgrading technical standards and managerial standards, and upgrading economic effectiveness. All tieguanyin tea produced by the Fujian state farm and land reclamation system is purchased for foreign trade. Products of the Hangzhou Municipal Dairy Company are "touted" in markets. One prominent aspect of upgrading management levels and economic effectiveness is daring to use and being adept at using loan funds to develop food industries. The Yuhang State Farm and Land Reclamation Bureau used its own building and workforces and 950,000 yuan of borrowed funds to build a distillery in July 1980 from which it earned profits of 20,000 yuan within less than half a year. In 1981, it was able to produce 650 tons of yellow and white distilled spirits, 30 tons of Wujiapi, and 50 tons of cordials with an output value of 560,000 yuan and profits of 180,000 yuan, turning 160,000 yuan over to the state in tax revenues. In less than half a year, the distillery provided a total of 360,000 yuan in tax revenues and profits, or 3.5 times the amount of the original loan.

Some of our views.

During the past 2 or 3 years, development of the two provinces state farm and land reclamation food industries has been fairly rapid; nevertheless a lot of potential still remains and prospects are vast. As to how to further make the most of advantages and give impetus to greater development of the state farm and land reclamation food system, we have the following views.

First is a need for energetic building of raw materials bases, with the emphasis going to restructuring and upgrading existing tea plantations, suiting general methods to local circumstances to develop oil-bearing crops, sugarcane, semi-tropical fruits, spices, flue-cured tobacco, and such cash crops, and planned development of the dairy and aquatic products breeding industries so that the food industry, the farming industry, and the breeding industry are closely linked, and so that the state farm and land reclamation food industry has a solid and dependable foundation.

Second is further development of various forms of economic partnerships, use and development of favorable conditions to carry forward integrated farming, industrial, and commercial enterprises, linking and expansion of channels for supply, production, and marketing, active solution to shortages of raw materials, supplementary materials, and packaging materials for production and to problems in the marketing of goods and shortages of funds.

Third is to proceed on the basis of actual needs and manpower and financial resources for a vigorous strengthening of technical restructuring, taking a firm grip on technical training, and striving during the period of readjustment so that the food industry's production equipment and technological standards, technical management standards, and level of administration and management will be substantially upgraded to create a group of new high grade, fine quality name brand goods.

Fourth is the need to further increase understanding of the major significance of developing the food industry, strengthening leadership, and ready the required managerial cadres with a professional understanding, who are able to manage, and who have an entrepreneurial spirit so that all work is genuinely done as it should be done.

Survey of Problems in Agricultural Mechanization

[Original source pp 287-290]

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From April to June 1981, we made a survey of some places in Guangdong and Yunnan provinces in the course of which we held separate survey meetings attended by comrades in the farm machinery sector in 14 provinces and autonomous regions. The main subject for the survey was new situations, new problems, and new experiences that have taken place in the farm mechanization field since the Third Plenary Session of the 11th Party Central Committee, in order to use this study to make further advances in the farm mechanization program and policy questions and future prospects.

Now let us summarize below the data gained in these 14 provinces and autonomous regions and the ideas derived from study of them.

1. Basic Situation in Agricultural Mechanization and Lessons of Experience

If China's agricultural mechanization is figured from the establishment of 14 mechanized farms in liberated areas of northeastern China in 1947, it has a more than 30 year history. Since the founding of the People's Republic, we have established a fledgling farm machinery industry. Between 1953 and 1978, the farm machinery industry grew at an average 20 percent. By the end of 1980, the country's rural villages had farm machines totaling 200 million horsepower, including internal combustion engines of 123 million horsepower, and electric powered machines with 77 million horsepower. The various kinds of farm machines and the level of mechanization in various fields was as follows:

(1) 5.63 million drainage and irrigation machines of 74.65 million horsepower. Almost 400 million mu, or between 50 and 60 percent of the irrigated area, are dependent on electromechanical power for irrigation. (The national irrigated area is 670 million mu).

(2) 3.4 million grain and oil processing machines with more than 20 million horsepower. Except for some places in remote mountain regions, most rural rice and flour processing has been mechanized.

(3) 280,000 pieces of machine-powered plant protection equipment. There are as many as several tens of millions of pieces of handpowered plant protection equipment. An overwhelming majority of production teams use these machines, which play a major role in prevention and control of crop diseases and insect pests.

(4) Hauling machines including tractors and trailers number 1.95 million. There are also 2.44 million rubber-tired animal-drawn wagons, 36 million rubber-tired pushcarts, more than 10,000 power boats, and 130,000 motor vehicles. These machines are a major force in agricultural hauling.

(5) There are 745,000 large and medium size tractors, and 1.87 small tractors (including hand tractors), with a total of 54 million horsepower. There are more than 3.56 million machine-towed implements.

(6) Harvesting machines and equipment. There are 27,000 combines, 73,000 windrow mowers, 2.5 million mechanized threshing machines, and 17,500 pieces of grain drying equipment amounting to somewhat more than 10 million horsepower.

A total of 610 million mu of land is machine plowed, and 235 million mu machine planted. This is 10.9 percent of the total planted area. A 65.43 million mu area, or 3.1 percent of the machine planted area, is machine harvested.

Gross investment in farm machinery in the national people's commune system is 34.3 billion yuan, which is about 30 percent of the value of investment in fixed assets of the three tier commune, brigade, and production team system.

Use of farm machines increases agriculture's ability to withstand natural calamities. The building of water conservancy facilities, and the widespread use of drainage and irrigation machines and of plant protection machines during the past 30 years has brought about gradual decline in the disaster rate. During 1978, 11 provinces in east China and south central China had major droughts, and diesel engines totaling more than 21 million horsepower plus electromechanical equipment of more than 10 million kilowatts diverted and pumped more than 170 billion cubic meters of water, the equivalent of the flow of the Huang He in a 3½ year period. As a result, these areas harvested a bumper crop in a major drought year. During 1978 and 1979, Hubei Province had 2 consecutive years of major drought as a result of which only 4 billion cubic meters remained of the 12 billion cubic meter water storage capacity. Thanks to the role played by drainage and irrigation machines, particularly during 4 months in 1979 when no rain at all fell, a bumper grain crop totaling 37 billion jin was harvested. The year 1979 was also one of major drought in Shanxi Province during which 100,000 pump wells and drainage and irrigation stations throughout the province operated more than 2 million horsepower of diesel engines and electromechanical equipment to lift and divert 3.5 billion cubic meters of water and harvest 16 billion jin of grain making 1979 an all-time bumper harvest year. Every year more than 100 million tons of pesticides are consumed throughout the country, and such an amount cannot be spread by hand. Development of plant protection machines permits prompt and effective control of damage from crop diseases and insect pests.

Secondly, use of farm machines has increased the land utilization rate, has made it possible to rush the seasons a bit, to keep to a farming schedule, and to promote increases in agricultural yields. They have also increased the labor productivity rate, and have played a major role in development of economically diversified commune and brigade enterprises, in making the rural economy flourish, and in raising the scientific and cultural level of rural villages as a whole.

The achievements that farm machines have scored must be affirmed, yet there are numerous lessons to be learned too. As a result of the influence of "leftism" during the past 30 years, there has been some mechanization for mechanization's sake in the guiding thought without concern for economic results, and resort to political campaigns to bring about a technical transformation without regard for national circumstances or capabilities. Blind direction, high quotas, doing things in fits and starts, and arbitrary uniformity have been practiced causing very many mistakes in the mechanization of agriculture. Unless "leftist" influences are eradicated, agricultural mechanization cannot advance along a correct path.

2. New Situations, New Circumstances and New Problems That Have Appeared in Agricultural Mechanization During the Past 1 or 2 Years

(1) The general institution in rural villages of various forms of production responsibility systems has been reflected in agricultural mechanization in which four major changes took place as follows: One was that in the period immediately following institution of responsibility systems, dividing up and selling of farm machines occurred in some places, and the amount of tractor station team operations declined. Second was a change in the kinds of farm machines wanted. Demand for large farm machines declined sharply, while demand for medium and small machines, and particularly for small machines, increased. The amount of demand for mechanized products could not compare with the amount of demand for semi-mechanized products. Third, there was a fairly great surge by production teams and even by individual peasant households or households in partnership to buy farm machines while production brigades bought few of them and communes even fewer. According to national statistics, in 1980 about 60 percent of tractors were owned by production teams, and purchases by individual peasant households or partnerships of peasant households reached 40,000, or about 1.5 percent of the total. Fourth, between 60 and 70 percent of funds used to buy farm machines were gathered together by commune and brigade collectives or by peasants themselves; the remainder were bank loans, but since such loans had to be paid back with interest, this amounted to the same thing as funds provided by oneself. No longer were free state assistance funds invested in farm machines.

(2) Sales of farm machines declined. In 1980, 5.93 billion yuan worth of farm machines was sold, 19 percent less than in 1979. Did the decline in farm machine sales mean that the peasants did not need machines? No. National statistics show that the rural people's commune system now has farm machinery with a value totaling 34.3 billion yuan. As a result of the implementation of the party's rural policies, the self-determination of production teams came to be genuinely respected and peasants had the right to select what they needed and to select the best when they bought. In view of the cancellation of state support funds, the peasants had to rely virtually completely on their own financial resources

to buy farm machines. During the first 5 months of 1981 sales figures were 2 billion yuan, virtually all of which were purchases made with funds individuals had gathered together. During 1978 and 1979 in Hubei Province, for example, sales of farm machines annually amounted to more than 360 million yuan, but declined to 250 million yuan in 1980. An overwhelming amount of this 250 million yuan was funds that communes and brigades and peasants had provided themselves. During the first 5 months of 1981, sales reached more than 100 million yuan, and most of these funds had likewise been self-provided to make purchases. In some places, despite great decrease in national assistance, no slackening took place in the speed of increase in farm machines. For example, Shandong Province increased by 32,700 the number of its tractors during 1980, a 16.9 percent increase over 1979. The speed of increase approached the levels of 1978 and 1979 when the state provided support. Such a speed of development had been completely unpredicted.

Though farm machine sales figures seemed to have declined, actually they reflected the peasants' real needs. The speed of development of agricultural mechanization seemed to have slackened, but was really very strong.

(3) New developments in farm machinery administration and management.

(1) Forms of farm machinery administration included not only the former state-owned, commune, and brigade forms, but also the emergence of various forms of production team, operating team, or individual peasant household independent administration or peasant household partnership administration. Today very few state-owned farm machine stations remain, and they have considerable difficulties. As a result of the increasing number of machines in production teams, a decline has also taken place in the number of commune-administered farm machinery stations that formerly did "plowing for others," and a trend toward downscaling of them has taken place. A situation of no work to do has also occurred for production brigade farm machine crews (or teams). The number of production team administered machines has become increasingly great, and a rise has also occurred in the number of machines run by individual households or partnerships of households. A "self plowing systems" (with production teams or peasant households taking care of their own land) is in the process of replacing the former "plowing-for-others system."

(2) Appearance of various forms of responsibility systems. These include systems such as five fixes and one reward or penalty, calculation of compensation linked to output (sometimes linked to output value or sometimes linked to profits), fixed quota figuring of work, specialized contracting, and contracting of machines to specific persons, etc. In essence, these are nothing more than fixed reward systems, systems in which calculation of compensation is linked to output, and machine contracting systems. Fixed reward systems are used primarily at commune farm machine stations. Since methods are involved and complicated, real use of the five fixes is very slight. Given the current educational level of farm machine management personnel and operators, they are very hard to apply across-the-board. Calculation of compensation linked to output includes fixed quota calculation of work and is fairly widespread. The contracting of machines to individuals including specialized contracting that is done mostly by production brigades and production teams has been accepted by people and the broad masses

of rural cadres and people consider this form of responsibility system to be convenient and easily workable. For production teams, which have a small number of farm machines, in particular, each production team usually having only one or two tractors and one or two drainage, irrigation and processing machines, there is neither need for nor is it possible to use a complicated five fixes and one reward method. Contracting of machines to individuals is, by contrast, rather suitable. Naturally the contracting of machines to individuals still requires gradual perfection, but this preliminary form is certainly better than "eating out of a large common pot."

(3) As their duties have become increasingly fewer, quite a few commune farm machine stations have broadened avenues going into various lines of work, with the result that they have become technical service centers for repairing and supplying farm machines, for training personnel, for management and rentals, and for the spread of new techniques, doing service and management work in agricultural mechanization for the whole commune. Some provinces even plan to merge commune farm machine stations and commune farm machine management stations.

3. Outlook For Future Agricultural Mechanization

With development of agricultural production, rural villages have funds to spare. These funds will be used in two ways. One is to improve living conditions, such as for food, clothing, and shelter. The second is to buy the means of production to expand production. The purchase of means of production will be done through suiting general methods to specific situations. Peasants in some places will want to buy oxen and horses, while in places where the advantages of mechanization are understood the peasants will buy machines. Statistics show that in the 5-year period 1976-1980, the country's draft animals increased by less than 1 percent. In south China a sturdy ox sold for more than 1,000 yuan, while in north China a mule or a horse might cost anywhere from 1,000 to several thousand yuan. Surveys have shown that during the busy spring plowing season, hiring an ox to plow the land will cost between 4 and 5 yuan per mu. It has also been found through practice that use of a machine is more economical than to plow with one's own ox. It takes several thousand jin of hay and several hundred jin of feed to feed an ox for a year, and someone has to take care of the animal. Through the one-time investment for a hand tractor is somewhat more than for an ox, the tractor's utilization rate is higher. It can plow, harrow, thresh, process, haul, and be used as power for drainage and irrigation. As a result, in many places individual peasants or peasants in partnership are increasingly buying machines.

The broad masses of cadres and people have distilled experience in taking the path of farm mechanization in the following terms: Become both wealthy and mechanized using wealth to advance mechanization and mechanization to advance wealth in a combination of wealth and mechanization.

More than 20 years experience in Henan Province has permitted the following conclusions: The places in which agricultural machines have developed rapidly and greatly have been those with a large population relative to available land, where avenues for economic diversification are broad, and where the economy is fairly

prosperous. Forty-three of the province's counties are fairly prosperous, per capita distributions averaging more than 80 yuan, each person having 1½ mu of cultivated land, with use of farm machine power averaging 3,000 horsepower per 10,000 mu. Zhengyang County, which is fairly poor, has been used as a pilot project county for farm mechanization in Henan Province. Here distributions average 67 yuan per capita, and cultivated land averages 2.6 mu per capita. It is a place where population is scant relative to available land. Peasants were not very happy about state investment in Dongfanghong-75 and Tieniu-55 tractors for this county, and presently this county averages only 770 horsepower of farm machinery power per 10,000 mu.

For a long time Shandong Province has focused on the mechanization of its four northwestern prefectures where the state has invested large amounts of manpower, material, and financial resources in the belief that this area's scant population relative to cultivated land, the flatness of the terrain, and the great amount of planting done for only meager harvests were favorable for development of mechanization. The results of experience showed just the opposite to have been true. It was on the Shandong Promontory with a large population relative to cultivated land, where intensive farming was done, where there were broad avenues for economic diversification, and where the economy was fairly prosperous that development occurred fairly rapidly. They concluded that henceforth development of farm machinery required not only a place where people were few relative to available land, but more importantly the degree of mobility of workforces, economic conditions, educational levels, and level of management had to be taken into consideration.

Where should strenuous efforts in agricultural mechanization be made in the future? This is an issue that each province will have to decide on the basis of its own circumstances. In Guangdong Province, for example, the major thrust is as follows: (1) Increase in ability to withstand calamities, solution to rotting of seedlings at low temperatures, molding of paddy and wheat, crop damage from diseases and insect pests, and more use of plastic mulch, grain drying machines, and plant protection equipment. (2) Greater use of harvesting, threshing and hauling machines during the busy season in farming. (3) Various machines for economic crops such as sugarcane. (4) Development of processing machinery to serve commune and brigade enterprises and for economically diversified products. (5) Development of machines for aquatic products such as machines for cleaning fishponds, for increasing oxygen in fishponds, and for processing fish food.

In Shandong Province, the main thrust is mechanization of the two busy seasons in farming, namely the "three autumn" tasks of plowing, planting and harvesting, and the "three summer" tasks of harvesting, sowing, and field care, plus the plowing, harrowing, sowing, harvesting, threshing [or husking, ginning, or removing stalks] of wheat, corn, cotton, peanuts, and sweet potatoes.

China is a vast land with a huge population, plentiful manpower resources, complex natural conditions, and greater regional differences. On the other hand, the country's economy is backward; it has little accumulated wealth, and educational and scientific and technical levels are low. Consequently, difficulties in mechanizing the country's agriculture are substantial, and a safe program of

of seeking truth in facts that adjusts general methods to times, materials, and places will have to be adopted with a good job done of surveying markets, determining needs, acting according to actual circumstances, and producing according to needs.

The policies that we should adopt have two facets. One is the need to carry out the principle of self-reliance in economic policies, but financial and material support from the state is imperative. The other is basing technical equipment policies on China's national circumstances. Farm machinery must be oriented toward large scale agriculture, be oriented toward rural production, and toward all fields of life. In addition, for a fairly long time to come, it will remain necessary to walk on the two legs of mechanization and semi-mechanization with manpower, animal power, and electromechanical power existing side by side, and with a combination of large, medium and small farm machines and implements in which the small predominate. Research work on farm machines must advance first. Numerous old products are urgently in need of improvement and numerous gaps in farm machines that the peasants urgently long for will have to be filled in.

4. Several Problems Requiring Further Exploration

(1) How much money will peasants spend on farm machines; what farm machines will they buy; and how many will they buy? This question requires complete investigation and study as well as correct market forecasting. This is a foundation for formulation of plans for development of agricultural mechanization and for good performance in readjustment of the farm machine industry.

(2) Energy problems. Petroleum fuels will be the major sources of energy for farm machines for some time to come, and will be indispensable for movable power sources. A long-range look at China's petroleum resources and their development shows need to carry out a program of equal emphasis on conservation and exploitation, while exploiting new fuel resources in addition to petroleum as well as developing new forms of machines (such as those powered by the wind, methane gas, coal, natural gas, etc). Firm action must be taken to explore possibilities in these regards.

(3) Encouragement and financial support must be given to peasant replacement of technologically outdated farm machines that consume large amounts of energy.

(4) Administration and management of farm machines must be suited to readjustments and changes in rural production relationships. The current situation shows that during the period of the Sixth Five-Year Plan the trend will be toward ever increasing operation of farm machines by production teams, individual peasant households, and peasant households in partnership. Faced with such large numbers of dispersed farm machines, the farm machine sector will have to devote major efforts to technical service work including technical training, technical direction, economic accounting, supplying of fuel and spare parts and repairs, and to replacement and improvement of machines and implements. Commune farm machine stations and management stations as well as production brigade farm machines crews (or teams) can gradually become management departments and technical service centers for farm machines in their own communes and production brigades. However, in order to upgrade production a notch, peasants will have to come up with new forms of administration more suited to development of productivity. They will

have to guide action adroitly according to circumstances so that farming, forestry, animal husbandry, sideline occupation, and fishing industry production develop to new heights.

(5) Farm machine industries will have to provide marketable fine quality products at a low price that peasants want. One major component in farm machine industry readjustment is good organization of their scientific research and design corps to tackle technology and take firm grip on research to improve old products and produce new ones.

TOPICAL ANALYSIS OF THE AGRICULTURAL ECONOMY

[Original source pp 304-320]

Status of China's Forestry Production

[Text] During the 30 years since the founding of the People's Republic, China has made definite achievements in its forestry production. Gross output value of forestry, output of major forest products, and kinds of products have all increased to make a contribution to the building of socialism and to raising the people's standard of living. Nevertheless, because of the weak foundation, plus the effect of "leftist" errors for a long period of time, as well as mistakes made in our work, development of forestry production has been slow. The situation of scarce forestry resources and uneven distribution has not changed greatly. Administration and management has been crude and production levels comparatively low. For a country with such a large land area and great population as ours, forestry has not been able to meet needs in development of the national economy.

1. Increase in the Gross Output Value of Forestry

Gross output value of forestry (afforestation) and of forest industries (felling and use) can be figured from statistical methods currently in use. A look at statistical figures shows a fairly rapid increase in the output value of China's forestry and forest industry, the specifics of which are detailed below:

1. Forestry output value. In terms of constant 1970 prices, the 1949 output value of the country's forestry was 280 million yuan. In 1952, it was 500 million yuan; in 1957, 1.6 billion yuan; in 1962, 1.26 billion yuan; in 1965, 2.06 billion yuan; in 1970, 2.75 billion yuan; in 1975, 3.71 billion yuan; and in 1980, 4.97 billion yuan. During the past 31 years, output value of the nation's forestry has increased by a total of 4.69 billion yuan in a 17-fold increase, or an average annual 151 million yuan increase, i.e., an average annual 9.7 percent. However, increase at various times was extremely uneven, roughly as follows:

The period 1949-1957, including the national economic recovery period of 1949-1952 and the period of the First Five-Year Plan from 1953-1957. During these 8 years, China's forestry developed very greatly. In 1957 the output value of forestry was 471.4 percent that of 1949 for an average annual 25 percent increase.

1958-1962, the period of the Second Five-Year Plan. As a result of the mistakes of the "Great Leap Forward," forestry output declined tremendously. In 1962 the output value of forestry was 21.3 percent less than in 1957 for an average 4.8 percent annual decline.

During the 3-year period 1963-1965, forestry production developed more rapidly, and in 1965 the output value of forestry was 63.5 percent higher than in 1962 for an average annual 17.8 percent increase, restoring it to the 1957 level.

The period 1966-1976 was the period of the 10 years of turmoil that ended with the smashing of the "gang of four" in the eleventh year. It included the 1966-1970 period of the Third Five-Year Plan, the 1971-1975 period of the Fourth Five-Year Plan, and the first year of the Fifth Five-Year Plan. During these 11 years, forestry production developed rather slowly. In 1976, the output value of forestry was 99.5 percent greater than in 1965 for an annual average 6.5 percent increase.

During the first 3 years of the 4-year period from 1977-1980, the growth rate was not great, averaging only 1.6 percent annually. In 1980, as a result of initial implementation of the party's forestry policies and rational readjustment of the structure of agricultural production, the output value of forestry shot up 10.4 percent over 1979.

Figures and rates of increase in the output value of forestry during each period are shown in Table 1.

Increase in Gross Output Value of Forestry at Various Periods

Period	Increase During Period (100 million yuan)	Average Annual Amount of Increase (100 million yuan)	Increase During Period %	Average Annual Increase %
1949-1980	46.9	1.51	1,675	9.7
Recovery Period	2.2	0.73	78.6	21.3
"First Five-Year Plan"	11.0	2.2	220	26.2
"Second Five-Year Plan"	-3.4	-0.68	-21.3	-4.7
Readjustment Period	8.0	2.67	63.5	17.8
"Third Five-Year Plan"	6.9	1.38	33.5	5.9
"Fourth Five-Year Plan"	9.6	1.92	34.9	6.2
"Fifth Five-Year Plan"	12.6	2.52	34.0	6.0

Note: Gross output value of forestry figures at 1970 constant prices.

It is interesting to note that as a result of development of forestry production and rational adjustment of the structure of the agricultural economy, the output value of forestry increased year by year in proportion to the gross output value of agriculture from 0.6 percent in 1949 to 3.1 percent in 1980 for a 4.2-fold increase. This shows that the position of forestry in the agricultural economy gradually came to be recognized by people. See Table 2 for details on the ratio of forestry output value to the gross output value of agriculture.

Table 2. Changes in the Ratio of Forestry Output Value to Gross Agricultural Output Value

Year	Forestry Output Value (100 million yuan)	Proportional to Agricultural Gross Output Value (%)
1949	2.8	0.6
1952	5.0	0.7
1957	16.0	1.7
1962	12.6	1.7
1965	20.6	2.0
1970	27.5	2.2
1975	37.1	2.9
1980	49.7	3.1

Note: Output value of agriculture and forestry figured at constant 1970 prices.

2. Forest industry output value. In terms of constant 1970 prices, the 1952 output value of forest industries throughout the country was 2.5 billion yuan. In 1957, it was 4.75 billion yuan; in 1962, 3.73 billion yuan; in 1965, 4.71 billion yuan; in 1970, 4.28 billion yuan; in 1975, 6.11 billion yuan; and in 1980, 8.66 billion yuan. In a period of 30 years, national forest industry output value increased 6.17 billion yuan, a total of 246.8 percent or an average annual increase in output value of 213 million yuan. Development during individual periods was as follows:

During the period 1949-1957, forest industries developed very rapidly from nothing. At that time the industry consisted mostly of the felling and use of timber from natural forests, plus a small timber processing industry that produced mostly sawed lumber. In 1957 output value of forest industries was 90 percent greater than in 1952 for an average annual 13.7 percent increase during the 5-year period.

Statistics show great growth in 3 of the 5 years of the Second Five-year plan period from 1958-1962. Actually, however, as a result of the influence of the "tendency to effect a premature transition to communism," "proneness to boasting and exaggeration," and the "achievement of new records," excessive felling took place over a wide area that seriously damaged the productivity of the forest industry leading to a dramatic decline in timber output during the following 2 years. Output value dropped tremendously by 38 percent in 1962 as compared with 1960.

The 3-year recovery period between 1963 and 1965. With the support of the state and the institution of readjustment policies, during this 3-year period the productivity of forest industries revived fairly rapidly and output value showed fairly great increase. Gross output value of the nation's forest industries rose 26.3 percent between 1965 and 1962 in an average annual 8.1 percent increase. This marked the third stage of development of forest industries.

During the 10 years of turmoil from 1966 to 1976, forest industries again suffered damage like all other industries. This plus the long-enduring serious proportional imbalance between felling and hauling industry production and capital construction caused timber output to fluctuate with no forward movement. During this period, only industries that used forest resources in multiple ways showed fairly rapid progress as a result of which growth of the gross output value of forest industries maintained a steady pace. By 1976, gross output value of forest industry was 64.6 percent greater than in 1966 for an average 5.1 percent annual increase during the 10-year period.

Between 1976 and 1980, gross output value of forest industries increased 41.8 percent for an average 7.2 percent annual growth.

In the 28-year period 1952-1980, forest industries' gross output value increased 246.8 percent for an average annual 4.5 percent growth. However, since forest industries developed more slowly than other major industries, the gross output value of forest industries as a proportion of national industrial gross output value fell from 9.4 percent in 1952 to 1.7 percent in 1980. Table 3 and Table 4 show growth of the gross output value of forest industries and changes in forest industry gross output value in proportion to industrial gross output value:

Table 3. Increase in Forest Industry Gross Output Value at Various Times

Period	Increase During Period (100 million yuan)	Average Annual Amount of In- crease (100 million yuan)	Average Annual Increase	Average
			During Period %	Annual Increase %
1952-1980	61.7	2.13	246.8	4.5
"First Five-Year Plan"	22.5	4.5	90	13.7
"Second Five-Year Plan"	-10.2	-2.04	-21.5	-4.7
Readjustment Period	9.8	3.27	26.3	8.1
"Third Five-Year Plan"	-4.3	-0.86	-9.1	-1.9
Fourth Five-Year Plan"	18.3	3.66	42.8	7.4
"Fifth Five-Year Plan"	25.6	5.12	41.9	7.2

Note: Forest industry gross output value figured at 1970 constant prices.

Table 4. Forest Industry Output Value and Its Proportional Changes

Year	Forest Industry Gross Output Value (100,000 yuan)	Forest Industry Gross Output Value as a Proportion of National Industrial Gross Output Value %
1952	25.0	9.1
1957	47.5	7.8
1962	37.3	5.1
1965	47.1	3.9
1970	42.8	2.1
1975	61.1	1.9
1980	86.7	1.7

Note: Output value figured in terms of 1970 constant prices.

2. Status of Forestry Production

Forestry production includes the process of growing forests and felling and using them. It is at once both a production activity of the farming industry in that it entails the planting of trees for afforestation, their care and nurture, and a part of industrial production activity in that it entails the felling and hauling of timber plus its processing and use. Forestry products include timber, sawed lumber, timber manufactures, wood chips, multiple uses of products (such as the making of plywood, fiberboard, shavings board, and thick paperboard), bamboo timber, economic forest products (such as walnuts, Chinese chestnuts, tea oil + seeds, tung oil seeds, Chinese tallow tree seeds, and raw lacquer), chemical industry products from the forest (such as resin and shellac), as well as wild plants and animals peculiar to forest regions and rare medicinal materials. Development of forestry production is directly manifested in increase in the kinds and amounts of major forest products. However, these direct economic benefits are but a small part of total forestry benefits. Of more importance is the multiple functions of forestry in improving the natural appearance of the land, in maintaining ecological balances, and in advancing output of agriculture and animal husbandry.

1. Status of Afforestation and Forest Operations

(1) Afforested area. In 1949, the nation's afforested area was only 450,000 hectares, but by 1980 it had risen to 4,552,000 hectares (including a state-owned afforested area of 603,000 hectares). During the past 31 years, a total of 108.57 million hectares have been afforested. This represents a 100-fold increase in the afforested areas during this period or an average 16.1 percent annual increase. This translates into an average annual absolute figure of 146,000 hectares. However, because of the low level of scientific techniques and management, plus the effects of "leftist" errors, a situation of instability and an overly low conservation rate has existed for a long time in the afforestation during the period 1949-1976 showed a 28.2 million hectare afforested area as having been conserved for the 28-year period. This means that

the conservation rate was only 31.2 percent. Of the area conserved, 84 percent has reached maturity for timber reserves averaging 69,000 cubic meters per hectare. Since 1977, more serious scientific afforestation has received more serious attention and protection has been increased. As a result the survival rate has increased slightly. Since the founding of the People's Republic, the accumulated afforested area that has been conserved totals about 36.31 million hectares.

Of the newly afforested area, timber forests in south China afforested mostly with Chinese fir cover about 5.33 million hectares, and economic forests of mostly tung oil and tea oil trees cover 2.67 million hectares. In northwest China, in the northern part of north China, and in the western part of north-eastern China, 3.33 million hectares of shelter forests have been built. More than 13 billion individual trees have been planted and conserved in the country's four besides [beside streams, roads, villages, and houses], and farmland shelter forests have risen along 190 million mu of fields. Table 5 shows the area afforested at various periods and average annual figures.

Table 5. Area Afforested Over the Years. Units: 10,000 hectares

Period	Area Afforested During Period		Average Annual Afforested Area	
	Total	Including: State-owned	Total	Including: State-owned
1949-1980	10,857	1,616.7	340.38	50.52
Recovery Period	170.8	13.7	42.70	3.43
"First Five-Year Plan"	1,406.8	65.1	281.36	13.02
"Second Five-Year Plan"	1,833.3	239.4	366.68	47.88
Readjustment Period	786.7	145.4	262.20	48.47
"Third Five-Year Plan"	1,921.4	299.1	384.26	59.82
"Fourth Five-Year Plan"	2,412.0	464.3	482.40	92.66
"Fifth Five-Year Plan"	2,325.7	389.7	472.22	77.94

A look at the overall situation shows that, except for a decline during the 1963-1965 readjustment period, the nation's afforested area has basically increased year by year. From the time of the Fourth Five-Year Plan beginning in 1971, the area afforested remained stable at around 4 million hectares as emphasis was placed on improvement in quality and assuring survival. China's artificially afforested area vastly exceeds that of other countries. According to 1976 resource statistics, the artificially afforested conservation area

amounted to half the artificially afforested area in the world as of 1970; however, in terms of quality, a considerable gap exists in comparison with foreign countries.

(2) Tending middle age and young forests. Tending forests is an important measure in the nature of forests, and is a major component in the administration of forest production. Prompt tending not only can promote forest tree growth and improve timber quality, but can produce some timber as well. Past progress in this regard had been very slow. According to 1976 resources statistics, the country had 65 million hectares of middle age and young forests, and since 1972 an accumulated total of 14.75 million hectares had been tended, or an average of 1.64 million hectares per year. At that rate, it would take 30 years to tend all the country's middle age and young forests just once. This demonstrates the very low level of intensity in the country's existing forests.

(3) Re-afforestation of cut over forestland. Once forests have been cut, only if the cut over land is re-afforested at once is it possible to assure continued use of resources. For various reasons, re-afforestation of cut over land has not kept pace with felling. In many areas, renewal has been mostly through natural growth, and work to advance natural renewal has not been done promptly. Since the founding of the People's Republic, an accumulated 6,094,000 hectares of state-owned forest farms and Forestry Bureau forests have been cut. The cut over area that has been artificially re-afforested has amounted to 5,188,000 hectares, so a debt is still owing on 906,000 hectares. See Table 6 for the cut over area that has been artificially reafforested over the years.

Table 6. Cut Over Area Artificially Re-Afforested Over the years

Units: 10,000 hectares		
Period	Cut Over Area Artificially Re-afforested	Including: State-Owned Re-afforestation
1949-1980	791.9	518.8
Recovery Period	2.3	2.3
"First Five-Year Plan"	24.5	24.5
"Second Five-Year Plan"	170.0	105.7
Readjustment Period	63.5	49.5
"Third Five-Year Plan"	142.2	88.6
"Fourth Five-Year Plan"	176.7	98.8
"Fifth Five-Year Plan"	212.7	149.4

(4) Production of forest seedlings. About 70 million jin of forest tree are now collected annually in China. Except for the seeds needed to plant bainingtiao [4101 1380 2742] and shadawang [3097 2092 2489] bushes and grass in northwest Chin and for the large area aerial sowing of pine trees, the

supply of most seeds is adequate, but quality is inferior. Today there are only less than 10,000 hectares of primary level seed nurseries and very few first generation seed nurseries. In 1973, China began to import some superior tree varieties from abroad such as *Pinus elliottii* and torch pine. About 400,000 hectares of seedlings are grown annually, about one-tenth of them in state-owned nurseries. In order to meet needs to develop forestry production, units concerned are actively conducting geographic seed stock experiments, appraising seeds, standardizing seeds and seedlings, and such scientific experiments. They have also linked planned building of superior variety bases and first generation seed nurseries.

2. Output of Forest Products

(1) Economic forest products. Major products now being produced by China's economic forests include tea oil seeds, walnuts, tung oil seeds, raw lacquer, Chinese chestnuts, and Chinese tallow tree seeds. Since the founding of the People's Republic, economic forest production has gone through several ups and downs. Substantial development took place during the last 1950's, with output of tea oil seeds, tung oil seeds, and walnuts reaching all-time high. After the 1960's, economic forests were damaged, tending and management was relaxed, and outputs declined dramatically. It has not been until recent years outputs of some products such as Chinese chestnuts, raw lacquer, and walnuts have risen again. However, the "three seeds" that are mainstays of perennial oil-bearing plants continue to produce very low yields per area and low yields per plant. National yields average 6-7 jin per mu of tea oil and 10-odd jin of tung oil. Walnut and Chinese chestnut yields average about 4 jin per plant of dried meats. Table 7 shows product output over the years. Tables 8 and 9 show average increases and decreases at various periods.

Table 7. Output of Major Economic Forests

Units: 10,000 tons

Year	Tea Oil Seeds	Chinese Tallow Seeds	Tung Oil Seeds	Raw Lacquer	Chinese Chestnuts	Walnuts
1952	24.9		43.5			
1957	49.4	12.5	51.8	0.17	2.93	10.3
1962	22.3	8.1	18.0	0.06	1.27	4.0
1965	35.6	8.2	15.0	0.19		4.8
1970	35.9	8.1	35.7	0.13		5.1
1975	42.5	7.7	37.0	0.20	1.14	6.5
1980	49.8	9.3	40.4	0.25	6.68	11.7

Table 8. Average Increase and Decrease in Output of Major Economic Forest Products

Units: 10,000 tons

Period	Tea Oil Seeds	Chinese Tallow Seeds	Tung Oil Seeds	Raw Lacquer	Chinese Chestnuts	Walnuts
1952-1980	0.89	-0.10	-0.11	0.003	0.16	0.06
"First Five-Year Plan"	27.34		32.50	0.007	0.18	
"Second Five-Year Plan"	6.12	-3.85	-10.04	-0.016	-0.94	-0.64
Readjustment Period	-12.73	-0.03	-9.76	0.023		-0.31
"Third Five-Year Plan"	7.09	-0.69	6.94	0.001		-0.11
"Fourth Five-Year Plan"	12.34	-0.33	01.26	0.064		2.94
"Fifth Five-Year Plan"	-4.24	1.10	2.3	0.034	1.79	2.00

Table 9. Average Speed of Increase or Decrease in Output of Economic Forest Products

Period	Tea Oil Seeds	Chinese Tallow Seeds	Tung Oil Seeds	Raw Lacquer	Chinese Chestnuts	Walnuts
1952-1980	2.5	-5.5	-0.3	1.7	3.7	0.6
"First Five-Year Plan"	14.6		3.6			
"Second Five-Year Plan"	-14.7	-8.3	-19.1	-18.8	-15.4	-17.2
Readjustment Period	16.9	0.3	-5.9	47		6.3
"Third Five-Year Plan"	0.3	-3.3	18.9	-7.4		1.3
"Fourth Five-Year Plan"	3.4	-1.1	0.7	9.0		5.0
"Fifth Five-Year Plan"	3.2	3.9	1.8	4.6	8.5	12.5

(2) Timber. Timber output within the national plan in 1949 was 5.67 million cubic meters. By 1980 the amount had reached 53.59 million cubic meters for a gross output increase of 47.92 million cubic meters during the past 31 years, an 845.2 percent total increase, or an average annual 7.5 percent increase. This translates into an average absolute figure of 1,546,000 cubic meters per year. But the increase in output and percent of increase differed at various periods. Increase in timber output has not been great since 1966; rather it has basically fluctuated without movement. Nevertheless the problem of concentrated overcutting of forests has become increasingly severe. Since 1980, timber output included in plan has been adjusted downward so that forest areas can recover and recuperate. Table 10 and Table 11 provide details.

Table 10. Timber Output Within Plan Over the years

Units: 10,000 cubic meters		
Year	Timber Output	Including: Output of State Centrally Allocated Timber
1949-1980	106.976	66,922
1949	567	567
1952	1,120	1,120
1957	2,787	2,779
1962	2,375	2,254
1965	3,978	3,273
1970	3,782	3,466
1975	4,626	4,065
1979	5,439	4,438
1980	5,359	4,149

The foregoing figures reflect only timber output included in state plans since the founding of the People's Republic. Actually, this amount is but a part of the total amount of timber produced. Extrapolation from an inventory of national forest resources done in 1976 shows almost 200 million cubic meters of forests being consumed annually throughout the country. This includes the consumption of resources consumed for use by society is more than again as much as resources consumed for marketable timber, or about 130 million cubic meters. Most of this is timber used locally, timber used by communes and brigades, timber used for the manufacture of small marketable items, and timber used by the masses for firewood. Since China has a large population, the portion consumed by society is appreciable. Moreover, unless new energy sources are found, no abatement can be expected in some consumption such as for firewood.

Table 11. Increase in Timber Output Within State Plan at Various Periods

Period	Increase during period (10,000 cubic meters)	Annual Increase (10,000 cubic meters)	Increase during period %	Annual percent increase
1949 - 1980	1.792	151.6	415.1	7.5
Recovery Period	688	229.3	121.3	30.3
"First Five-Year Plan"	1.332	306.1	122.1	17.3
"Second Five-Year Plan"	-112	-42.1	-11.8	-3.1
Readjustment Period	1.403	334.3	67.5	18.8
"Third Five-Year Plan"	-196	-39.2	-4.9	-1.0
"Fourth Five-Year Plan"	921	181.2	21.1	4.5
"Fifth Five-Year Plan"	656	131.2	13.9	2.6

(3) Bamboo Timber. South China produces large amounts of bamboo timber. Statistics for a 28-year period between 1950 and 1980 show a bamboo timber output totalling almost 1.3 billion timbers. In 1950, output was 6.54 million timbers; in 1980, it was 96.18 million timbers. Output increased during this period by 89.64 million timbers, or an average increase of nearly 3 million timbers annually. Since 1973, output has stabilized around 100 million timbers annually. Bamboo plays a fairly important role in the country's economic construction and in the life of the people. Not only can it be processed into bamboo manufactures to meet needs in the people's livelihood and for export, but it can take the place of lumber and moderate the contradiction between supply and demand for lumber.

(4) Status of timber processing and multiple uses of products produced. During the period immediately following the founding of the People's Republic, sawed lumber and plywood were the only two kinds of products produced by the timber processing industry. During the late 1950's and the early 1960's, fiberboard and wood shavings board began to be produced, and during the early 1970's woods chips began to be produced. Recent years have also seen the development of dense fiberboard, decorated man-made boards, etc. Overall, the kinds of timber processing and products making multiple uses of timber have gradually increased and output has climbed. Output for representative years is shown in Table 12.

Table 12. Output of Major Timber Products Nationally

Units: 10,000 cubic meters
Units: 10,000 cubic meters

Period	Sawed Lumber	Plywood	Fiberboard	Wood Shavings Board
1950	344			
1952	470	2.8		
1957	821	7.0		
1962	673	7.4	1.6	0.5
1965	1.160	13.9	5.0	3.1
1970		17.1	6.6	2.0
1975	1.069	19.2	15.5	2.7
1980	1.569	33.0	50.6	7.8

Between 1950 and 1980, national output of sawed lumber increased by 10.25 million cubic meters for a 298 percent increase. Output of plywood increased 302,000 cubic meters for an almost 11-fold increase. Table 13 and Table 14 show the amount and percent of increase and decrease for each period.

Table 13. Average Increase or Decrease in Output of Processed Timber and Products Made From Multiple Uses of Timber

Units: 10,000 cubic meters

Period	Sawed Lumber	Plywood	Fiberboard	Wood Shavings Board
1950 - 1980	34.2	1.09		
"First Five-Year Plan"	382	2.95		
"Second Five-Year Plan"	378	6.3	2.75	0.5
Readjustment Period	-127.3	0.6	0.18	1.67
"Third Five-Year Plan"	101.3	5.3	3.17	-0.44
"Fourth Five-Year Plan"	-61.8	0.8	5.88	0.97
	118.1	7.02	20.08	1.88

China's timber output stands fifth in the world after the United States, the USSR, Canada, and Sweden in terms of industrial use; however, in terms of population, it is much below the world average. Table 15 and Table 16 provide details. Timber processing and production of products that use timber in multiple ways lag even farther behind world levels. Take 1979 as an example. China's output of man-made boards amounted to only 0.7 percent of total world output, placing China in twenty-first position in the world. The ratio between man-made boards and timber output for China was 1:70 while the world average was 1:30. For advanced forestry countries, it was about 1:10. See tables 17, 18, and 19 for output of man-made boards and for a comparison of man made board and timber output in several countries.

Table 14. Average Annual Speed of Increase or Decrease (%) of Output of Processed Timber and Products Made From Multiple Uses of Timber

Period	Sawed Lumber	Plywood	Fiberboard	Wood Shavings Board
1950 - 1980	4.7	10.8		
"First Five-Year Plan"	11.9	20.1		
"Second Five-Year Plan"	-1.0	1.1		
Readjustment Period	19.9	23.4	46.2	83.7
"Third Five-Year Plan"		4.2	5.7	-4.4
"Fourth Five-Year Plan"		2.3	18.6	6.2
"Fifth Five-Year Plan"	5.1	11.6	27.2	23.6

Table 15. Average Per Capita Use of Timber in Comparison With Foreign Countries

Units: cubic meters/person					
World Average	China	USSR	United States	Japan	West Germany
0.7	0.06	1.09	1.52	0.28	0.44

Note: Comparison of industrial timber use and population figures for 1979.

Table 16. Comparison of Timber Output With Foreign Countries

Country	1965		1970		1979	
	Timber output (10,000 m ³)	Percent of World Total	Timber output (10,000 m ³)	Percent of World Total	Timber output (10,000 m ³)	Percent of World Total %
World Total	113.124	100	127.460	100	142.089	100
China	3.978	3.5	3.782	3.0	5.418	3.8
USSR	27.360	24.2	29.850	23.4	28.360	20.0
Canada	10.767	9.5	11.730	9.2	15.667	11.0
United States	28.688	25.7	31.265	24.5	33.116	23.3
Sweden	4.680	4.1	5.667	4.4	5.792	4.1
Japan	4.953	4.4	4.535	3.6	3.215	2.3
Finland	3.360	3.0	3.745	2.9	4.011	2.8
West Germany	2.355	2.1	2.650	2.1	2.706	1.9
Romania*	1.458	1.3	1.579	1.2	1.652	1.2

* Timber output for Romania is for 1964 and 1969

(5) Forest-produced chemical industry products production. The principal forest resources used as raw materials for forest-produced chemical industry products are rosin, tannin extract, and shellac. Since the founding of the People's Republic, development of forest-produced chemical industry products has been fairly remarkable. A change has taken place in the situation immediately following liberation of export of raw materials, such as rosin and import of finished products, to large scale exports of finished products, with China taking first place in the world in both output and volume of exports. China is also virtually self-sufficient in tannin extract and shellac. Table 20 shows outputs for representative years.

Table 20 permits the calculation that national output of rosin increased by 314,523 tons between 1950 and 1980 in an almost 25-fold increase; output of tannin extract increased by 36,230 tons in a 431-fold increase; and output of shellac increased by 1,991 tons in an almost 14-fold increase.

Tables 21 and 22 show the amount of increase or decrease and the percent increase of various forest-produced chemical industry products for various periods.

Table 17. Comparison of Man-made Board Output With Foreign Countries (1)

Units: 10,000 cubic meters

Country	Sawed Lumber			Plywood			Wood Shavings Board			Fiberboard		
	1965	1970	1979	1965	1970	1979	1965	1970	1979	1965	1970	1979
World Total	37.221	11.275	11.600	0.418	0.317	1.321	922	1.010	1.104	1.263	1.421	1.790
China	1.160		1.271	13.9	17.1	29.2	3.1	2.0	5.3	5.1	6.5	12.9
USSR	11.029	12.919	10.600	171	204	212	80	196	478	101	136	296
Canada	2.354	2.693	1.482	170	185	251	15	28	130	84	91	86
United States	8.640	8.182	8.724	1.281	1.408	1.820	145	213	720	358	562	719
Sweden	1.027	1.227	1.123	6	8	9	17	39	124	107	99	69
Japan	3.220	4.283	5.891	263	692	840	17	35	95	52	71	57
Finland	681	735	908	55	71	64	21	38	83	43	38	27
West Germany	889	969	1.045	67	57	45	179	378	668	44	37	31
Romania	500	541	469	24	29	31	19	32	99	14	22	30

Table 18. Man-made Board Output Compared With Foreign Countries (2) %

Country	Sawed Lumber			Plywood			Wood Shavings Board			Fiberboard		
	1965	1970	1979	1965	1970	1979	1965	1970	1979	1965	1970	1979
World Total	100	100	100	100	100	100	100	100	100	100	100	100
China	3.1		2.8	0.6	0.5	0.7	0.3	0.1	0.1	0.4	0.5	2.4
USSR	29.7	29.1	22.7	7.0	6.2	4.9	8.7	10.4	11.6	7.9	9.5	16.5
Canada	6.8	6.5	10.0	7.0	5.6	5.8	1.6	1.5	3.2	6.5	6.6	4.8
United States	23.1	19.8	19.5	52.9	42.4	42.1	15.7	16.4	17.5	43.5	40.9	39.9
Sweden	2.8	3.0	2.5	0.2	0.2	0.2	1.8	2.0	3.0	8.3	6.9	3.8
Japan	8.7	10.4	8.7	10.8	20.8	19.4	1.8	1.8	2.3	4.1	4.9	3.2
Finland	1.8	1.8	2.0	2.2	2.1	1.5	2.3	2.0	2.0	3.4	2.6	1.5
West Germany	2.4	2.3	2.3	2.7	1.7	1.0	19.4	19.8	16.2	3.4	2.6	1.7
Romania	1.3	1.3	1.0	1.0	0.9	0.7	2.1	1.6	2.4	1.1	1.5	1.7

By way of comparison with foreign countries, annual world rosin output stands at about 1.1 million tons. In addition to China, the United States annually produces about 300,000 tons of rosin. Annual world output of tannin extract is about 600,000 tons. South Africa produces most with an annual output of more than 200,000 tons. India stands first in annual production of shellac with an output of about 50,000 tons.

3. Forest industry labor productivity rate. Inasmuch as the overall degree of mechanization and levels of administration and management are not high, the labor productivity rate in China's forest industries is comparatively low. In actual terms, for the major forest area of Heilongjiang, Jilin, and Nei Monggol, average annual timber output per felling and hauling worker in 1952

was 63 cubic meters. By 1965, it had increased to 177 cubic meters for a 180 percent increase in 14 years, or an average 8.9 percent annual rise. Between 1965 and 1975, it declined. This was related to the turmoil that existed throughout the country and chaotic management. An additional important reason was changes in production conditions. After 1976, it gradually rose and in 1980 it reached 149 cubic meters per year for every worker engaged in felling and hauling, but it has not reached the all-time high. Between 1952 and 1980, labor productivity increased 135 percent for an average annual increase of less than 0.1 percent. As compared with foreign countries, the gap is even greater. As a result of the great increase in the numbers of non-production workers, the labor productivity rate for forest industry enterprises throughout the country in terms of output value was only 3,801 yuan for all personnel in 1980. This was lower than the 1952 level. Table 23 shows increases in the labor productivity rate.

Table 19. Comparison of 1979 Output of Man-made Board with Industrial Use of Timber

Units: 10,000 cubic meters

Country	Output of Man-made Board	Output of Timber Used Industrially	Ratio
World Total	10.682	142.089	1:13
China	77	5.418	1:70
USSR	1.033	28.360	1:27
Canada	517	15.667	1:30
United States	3.259	33.116	1:10
Sweden	203	5.792	1:29
Japan	1.022	3.215	1:3
Finland	176	4.011	1:23
West Germany	773	2.706	1:4
Romania	167	1.652	1:10

Table 20. National Output of Major Forest-produced Chemical Industry Products

Year	Rosin	Tannin Extract	Shellac
1950	12.760		
1952	42.445	84	
1957	116.799	1.633	143
1962	33.395	4.800	241
1965	167.171	13.064	440
1970	176.200	22.550	1,800
1975	266.221	20.861	915
1980	327.283	36.314	2,134

Table 21. Average Increase or Decrease in Output of Major Forest-Produced Chemical Industry Products

Units: Tons

Period	Rosin	Tannin Extract	Shellac
1950-1980	10.484	1.252	78.5
"First Five-Year Plan"	48.992	707	
"Second Five-Year Plan"	-9.209	7.260	141
Readjustment Period	76.887	1.462	27
"Third Five-Year Plan"	27.411	7.473	858
"Fourth Five-Year Plan"	81.393	3.371	198
"Fifth Five-Year Plan"	29.160	8.343	122

Table 22. Percent of Average Increase or Decrease in Output of Forest-Produced Chemical Industry Products

Period	Rosin	Tannin Extract	Shellac
1950-1980	11.4	24.2	11.8
"First Five-Year Plan"	22.5	81.0	
"Second Five-Year Plan"	-22.1	24.0	11.0
Readjustment Period	70.7	39.6	22.2
"Third Five-Year Plan"	1.1	11.5	32.5
"Fourth Five-Year Plan"	8.6	-1.6	-12.7
"Fifth Five-Year Plan"	4.2	11.7	18.5

Table 23. Forest Industries Labor Productivity Rate

Year	Actual labor productivity rate per worker engaged in felling and hauling (cubic meters/man year)	Labor productivity rate in terms of output value (Yuan/person)	
		For all personnel	Including: personnel engaged in felling & hauling
1952	63.4	3.834	3.068
1957	105.6	3.911	3.182
1962	78.1	2.010	1.775
1965	177.1		
1971		3.491	3.014
1973	129.0	3.634	4.587
1980	118.7	3.801	4.857

3. Forestry Production Bases

Most of China's forestry products production bases today are located in original natural forest areas. Despite the large amount of new afforestation done since liberation, such forests are as yet unable to supply large amounts of forest products, and new forestry production bases are still in process of being built.

1. Timber production bases. China timber and timber processing industry production bases may be roughly divided into three state-owned forest areas: the northeast and Nei Monggol forest area, the southwest forest area, and the northwest forest area, plus concentrated forest areas in south China including forest areas in the nine provinces and autonomous regions of Fujian, Anhui, Zhejiang, Jiangxi, Hunan, Hubei, Guangdong, Guangxi, and Guizhou.

(1) The northeast and Nei Monggol forest region includes the four large tracts of the Daxing'an and Xiaoxing'an ranges, the Zhangguangcai Range, and the Wanda Shan in Heilongjiang Province, the Changbai Shan forest region of Jilin Province, and the forested western slope of the Daxing'an Range in the Nei Monggol Autonomous Region. The forest area in these three provinces and autonomous regions covers 33.86 million hectares or 27.8 percent of the country's total forest area. They contain 3.079 billion cubic meters of forest reserves or 32.3 percent of the country's total forest reserves. Timber output from these forest areas during the past more than 30 years has accounted for more than 50 percent of the country's total output of marketable timber. They are the country's largest marketable timber production bases and hold a critical position. After more than 30 years of building, this forest region is beginning to take shape. With the exception of the Daxing'an Range and some locally operated state-owned forests, which have yet to be completely developed and built, 82 forest bureaus have been set up and planned timber output is 24.7 million cubic meters. However since forest farm and road construction have not kept pace, actual completed capacity is only around 18.44 million cubic meters. At present production levels, serious concentrated overcutting has taken place. Consequently, this base bases the problems of how to reduce the overcutting, recover, and consolidate. After reducing overcutting and allowing the region to recuperate, building will be sped up with the planned replanting of cutover areas, tending of middle age and young forests, and transformation of secondary growth forests, so that this forest region is built into a marketable timber production base that can continue to be used.

(2) The southwestern high mountain forest region consists primarily of the forest region in the upper reaches of the Jinsha Jiang and the Nanpan Jiang in Yunnan Province, and the forest zone of the Min Jiang, the Dadu He, and the Yalong Jiang in Sichuan Province. Most of this forest region is owned by the state and covers an area of 17.02 million hectares, which is 14 percent of the total national forest area. Forest reserves amount to 2.336 billion cubic meters, or 24.5 percent of total national forest reserves. Timber output is 12.4 percent of the national marketable output of timber. Since the southwestern forest region is located in the upper reaches of the Chang Jiang, it plays a protective role in the conservation of soil and in controlling water sources. The high mountains with steep slopes make for difficulties in reforestation; consequently, prudence must be exercised in the exploitation of this forest region. Future timber production at this base must be done through

rational delineation of kinds of forests, i.e., it must be done in a planned way to insure its role in the conservation of water resources.

(3) The northwest forest region is rather dispersed and includes mostly the Tian Shan and the Altai Shan forest regions of the Xinjiang Autonomous Region, the Bailong Jiang forest region in Gansu Province, and the Qinling forest region in Shaanxi Province. The forest area covers 7.9 million hectares or 6.5 percent of the nation's total forest area. Forest reserves amount to 675 million cubic meters or 7.1 percent of the country's total reserves. Timber output is 3.1 percent of national output of marketable timber. These forests play an important role in safeguarding water sources and conserving water and soil in the northwest. In addition, reforestation of this region's forests is very difficult; consequently the region does not lend itself to large scale felling. Only a certain amount of timbering that does not damage the ecological balance can be done.

(4) The concentrated forest area marketable timber production base in nine provinces of south China covers a 44.22 million hectare area, which is 36 percent of the total national forest area. Forest reserves amount to 1.449 billion cubic meters, which is 15.2 percent of total national forest reserves. Log output accounts for 31 percent of the country's output of marketable timber. This is a commercial timber forest base containing mostly Chinese fir, pine, eucalyptus, oak, sassafras, and bamboo. This is a semi-tropical area with superior climatic conditions in which trees grow rapidly. It provides a definite foundation for the operation of a forestry industry. Artificial afforestation, aerial afforestation, and the closing off of mountain areas so that forests can grow would all be effective here. Production potential is very great. Back in the 1960's, some provinces and regions began to build timber forest bases. In 1976, the state began to allot assistance for afforestation of bases, and by 1980 2.67 million hectares had been newly afforested. Preliminary surveys show a survival rate of about 70 percent and an area of about 1.87 million hectares preserved. Most of these newly built timber forest bases contain quick growing trees such as Chinese fir, pine, eucalyptus, and poplar. In recent years a beginning has been made in selecting places with superior conditions, further intensive operating measures adopted, and directive breeding done to bring into being quick growing bumper output forest bases with a high marketable timber output that will begin to produce timber within roughly 15 to 20 years. Over the long haul, south China's provinces and autonomous regions will be among the country's major bases for timber and development of the production of timber products.

2. Economic forest production bases. In addition to providing timber, the fruits, bark, and parasitic insects of economic forests provide oils, nuts, raw lacquer, shellac, Chinese gall nuts, tannic acid, and medicinal herbs of very high economic value. Most important tree varieties are: tea oil, tung oil, walnut, lacquer, Chinese chestnut, date, eucommia, and Dalbergia hupeana family trees which harbor shellac producing parasites. The existing national economic forest area covers 130 million mu, which is 7 percent of the country's total forest area. This includes 80 million mu of forests that produce edible oils, 29.67 million mu of forests that produce raw materials used in industry, and 8.5 million mu of woody plant food forests.

(1) Woody plant edible oil production bases. At the present time, China's main sources of woody plant edible oils are tea oil plants, olives, walnuts, and shiny-leaved yellowhorn [*Xanthoceras sorbifolia*]. China has 50 million mu of tea oil groves that produce 300 million jin of oil, or an average 6 jin per mu. Tea oil plants are found largely in the hilly regions of Hunan and Jiangxi provinces where 166 base counties are presently under construction (requiring that each county produce more than 1 million jin of tea oil). The tea oil grove area in these base counties accounts for 58 percent of the nation's tea oil groves, and for 60 percent of the tea seed output. Currently average per unit yields are 4 percent higher than the average value for the country as a whole. The country has 2.1 million mu of olive groves. The trees were brought in from Albania during the 1960's. In 1975 plantings began over a wide area, so today most of the groves contain young trees that have not yet borne fruit. Current output of olive oil is 18,000 jin, mostly from Sichuan, Yunnan, and Shaanxi provinces. China has 13 million mu of walnut forests producing 200 million jin of walnut oil, or an average of 15 jin per mu. Major walnut oil producing areas are Shaanxi, Shanxi, Yunnan, and Sichuan provinces where there are currently 63 walnut producing base counties accounting for 27.5 percent of the country's walnut forest area and producing 68 percent of its walnut oil. In these counties, yields average 35 jin per mu or 126 percent more than the national average yield per mu. China has 730,000 mu of shiny-leaved yellowhorn producing 71,000 jin of oil, or an average of less than 1 jin per mu. Major producing areas are Nei Monggol and Liaoning.

(2) Production bases for woody plant raw materials used in industries. The main raw materials that China's forestry provides for industrial production are tung oil, Chinese tallow tree oil, raw lacquer, and shellac. The country currently has 20 million mu of tung forests producing 220 million jin of oil annually, or an average of 11 jin per mu for the country as a whole. Major producing areas are Sichuan, Hunan, and Guizhou provinces in which 102 key production area counties have already been established. These counties have 59 percent of the country's tung forests and produce about 80 percent of its tung oil. China has 2 million mu of Chinese tallow tree forests producing 66 million jin of oil, or an average of 33 jin per mu. Principal producing areas are Hubei, Zhejiang and Sichuan provinces, where the production bases that have been built contain 67 percent of the country's Chinese tallow tree forests and produce 83 percent of its Chinese tallow tree oil. China currently has 7 million mu of lacquer forests producing 5.6 million jin of raw lacquer, or an average 0.8 jin per mu. Major production areas are Shaanxi, Hubei, Sichuan, and Guizhou provinces where 57 base counties for the production of lacquer have been established. These counties account for 54 percent of the country's lacquer tree area and output. China has 670,000 mu of forests that act as hosts for shellac producing insects, and lacquer output is 7 million jin, or an average 10 jin per mu. Shellac production base counties have been established in Yunnan, Guangxi, and Guangdong. These counties contain 70 percent of the country's forests that are hosts for shellac producing insects, and they produce all the country's shellac.

In addition, there are 3.8 million mu of Chinese chesnut forests with an output of 100 million jin. Yields average 26 jin per mu. Twenty-six production base counties have been established in Hebei and Shandong, accounting for 30 percent

of the country's Chinese chestnut forest area and producing 57 percent of its Chinese chestnut output. Yields average 49 jin per mu, which is 87 percent higher than the national average yield. There are now 3.6 million mu of red date forests with an output of 690 million jin and yields averaging 192 jin per mu. Seventy-one base counties have been built in Hebei, Henan, Shandong, and Shanxi provinces.

3. Forestry serves farming and livestock production. Provision of forest products such as timber are only one small benefit derived from forest production. A more important function of forests is in locking up moisture, conserving soil and water, regulating the climate, protecting farming and livestock industry production, and maintaining the ecological balance. Proceeding from the angle of forestry serving agricultural and livestock industry production, the building of two fairly large scale projects has begun in recent years, namely the "three norths" shelter forest and the building of forest networks around farmlands.

(1) Building of the "three norths" shelter forest system. In 1978 the State Council approved construction plans for this shelter forest system, which is a major project of strategic significance. It covers 359 counties and banners in 12 provinces, municipalities and autonomous regions including Shaanxi, Hebei, Nei Monggol, Liaoning, Jilin, Heilongjiang, and Beijing. Prior to 1977 this region already had a 130 million mu forest area including 40 million mu of man-made forests. Today state-owned forest farms and nurseries are located at more than 1,000 places. There are more than 300 forestry work stations and sand control stations, 50 forestry research units, more than 20,000 commune and brigade operated forest farms, and a specialized workforce of 250,000. This provides conditions for afforestation of the "three norths" shelter forest system project. According to plans, during the first project period running from 1978 to 1985, 89 million mu of shelter forests of all kinds are to be planted. Overall plans for individual counties (or banners) have already been completed. During the past 3 years (1978-1980), 32 million mu have been afforested, and the preserve area is about 28 million mu, which is 31 percent of the total plan quota. At this rate, the first stage of the project will be completed around 1987. Once the first stage of the project has been completed, construction of the second and third stages will begin. With fairly long-term efforts, transformation of natural conditions in this region will be completely realizable.

(2) Building of forest networks around farmlands. China's Central Plains the middle and lower reaches of the Huang He and north China have about 430 million mu of farmland (or about one-third the total farmland area in the country) that is prone to natural disasters such as flooding, drought, or hot dry winds. Afforestation of a forest network around these farmlands in accordance with certain specifications can greatly reduce the effects of disasters, while at the same time ameliorating the shortage of lumber and firewood in rural villages. In this region, the climate is temperate, the amount of rainfall moderate, the soil fertile, workforces abundant and transportation convenient. Afforestation of a forest network around the farmland is also fairly easy. Since the founding of the People's Republic, forest networks have been built over a 190 million mu farmland area, which have played an extremely outstanding role in assuring consistently high yields from the farming and livestock

industries in these regions. It is planned that by 1985 or a little longer, the farmland forest network will have been completely built in this region.

4. Forestry Production Does Not Meet Needs for Development of the National Economy and the People's Livelihood

China is a vast land with a large population, and though forestry has developed since the founding of the People's Republic, the forest cover rate is only 12.7 percent. There is a very great gap between the amount of forest products that can be provided and amounts needed for socialist construction and the people's constantly increasing requirements. The contradiction between supply and demand is extremely sharp.

1. Too few forest resources. Today China has 120 million hectares of forestland, which is about 4 percent of the world's forestland area (2.8 billion hectares). China's 12.7 percent forest cover rate is very much lower than the 22 percent world average, and its 9.5 billion cubic meters of forest reserves amount to 3 percent of the world's 310 billion cubic meters. Countries of the world with an advanced forestry industry grow more than 3 cubic meters of timber per hectare, but China grows only 1.8 cubic meters. The absolute figure for Chinese forest reserves is not small, placing China fifth in the world. But in terms of population, the average figure is extremely small. China's average forest area is less than 2 mu per capita, which is only 12 percent of the world average of 16 mu. Reserves average less than 10 cubic meters per capita, which is only 12 percent of the 83 cubic meter world average. China stands 116th among 160 countries and regions in terms of the forest cover rate. As Premier Zhao Ziyang pointed out in his government work report to the Fourth Session of the Fifth National People's Congress, "China's forest area is small, its cover rate low, soil erosion serious, and the ecological balance is becoming worse and worse. Unless something is done to solve this problem effectively, we will commit an historical error that will hurt posterity."

2. Supplies of major forest products unable to meet demand. In 1979, world timber consumption averaged 0.7 cubic meters per capita (not counting timber used for fuel), while in China consumption was only 0.06 cubic meters per capita. The world average figure was 12 times that for China. Because of the great scarcity of timber in China, the state has had to gradually reduce amounts distributed to units needing it. Timber consumption per 10,000 yuan of investment was 6.4 cubic meters in 1957, 4.5 cubic meters in 1967, and declined to 2.3 cubic meters in 1977. In recent years the country has imported timber, but a very great gap still exists between supply and demand. Over the long run, the timber shortage will continue. For example, if China uses paper at half the present world rate of 40 kilograms per capita, 35 million cubic meters of timber for making paper will be required annually. However, China can supply only about 4 million cubic meters of timber for making paper today. If all the people's needs for timber in production and daily life are figured in, the contradiction between production and needs becomes even sharper.

In terms of needs for development, supplies of rosin, tannin extract, shellac, and other forest products are also fairly short.

3. Severe shortage of energy in rural villages. As a result of economic conditions and other limitations occasioned by insufficient energy, the country's far-flung farm villages have long used the stalks and stems of farm crops and timber for firewood. More than 70 million of China's more than 100 million peasant households seriously lack firewood. China annually produces roughly about 500 million tons of stalks and stems, and even if the entire amount were used as fuel they would be able to meet only minimum peasant needs for cooking. The timber that China presently burns each year amounts to one-third total consumption of forest resources, or about 70 million cubic meters. For this reason, fundamental improvement of this state of affairs requires vigorous planting of firewood forests.

(Planning Section of the Planning Department, Ministry of Forestry and
Planning Section Forestry and Industry Bureau)

The Economic Position of China's Forestry

Forestry holds an important position in China's national economy. Not only do forests provide timber and other forest products to satisfy needs in national construction and the people's livelihood, they also lock up moisture, conserve water and soil, regulate the climate, break winds and hold sands in place, reduce or prevent natural calamities, and assure consistently high yields from farming and animal husbandry. They also provide numerous other benefits in purifying the air, preventing pollution, and beautifying the environment. The value of direct benefits that forests provide in timber and forest sideline products may be expressed in terms of monetary value, but there is currently no scientifically quantitative analytical method for putting a value on the social benefits that forests provide. According to some foreign data, the value of indirect benefits from forests far outweighs the value of direct benefits from forests. The analysis that follows is made solely on the basis of several indices of direct forest benefits that can be quantified, and this analysis is then used to explain forestry's position in the national economy.

1. Forestry Labor Force

1. Staff members and workers in forestry as a ratio of total staff members and workers nationally. The number of staff members and workers in the national forestry sector's system of ownership by the whole people increased from 315,000 as of the end of 1952 to 2,176,000 as of the end of 1980. This was a 5.9-fold increase in 28 years, or a 7.1 percent average annual increase, which was higher than the speed of growth of staff members and workers in the national system of ownership by all the people. The ratio of staff members and workers in forestry to staff members and workers employed in the national system of ownership by all the people rose from 2.0 percent as of the end of 1952 to more than 3 percent during the 1960's, and continued on to between 2.4 and 2.8 percent during the 1970's. See Table 1 for details.

2. Ratio of staff members engaged in forestry in the forestry sector to staff members and workers engaged in farming, forestry, water conservancy and meteorology in the system of ownership by the whole people. During the 23-year period

between 1957 and 1980, the number of staff members and workers engaged in forestry in the forestry sector rose from 83,000 to 669,000 for a seven-fold increase, or an average annual 9.5 percent increase. This was slightly higher than the increase in staff members and workers in farming and forestry, water conservancy and meteorology in the system of ownership by all the people for the same period (8.9 percent). The ratio of staff members and workers engaged in farming and forestry, water conservancy, and meteorology was 8.3 percent in 1980, a fairly large rise from the mid-1970's, but not as high as the 8.6 percent of 1965. See Table 2 for details.

Table 1. Ratio of Staff Members and Workers in the Forestry Sector to Staff Members and Workers in the System of Ownership by the Whole People

Year	Number of Staff, Members and Workers in the Forestry Sector (10,000 people)	As a Ratio of Staff Members and Workers in the National System of Ownership by the Whole People (%)
1952	31.5	2.0
1957	54.7	2.2
1965	124.0	3.3
1975	162.8	2.5
1979	213.2	2.8
1980	217.6	2.7

Table 2. Ratio of Staff Members and Workers Engaged in Forestry in the Forestry Sector to Staff Members and Workers in the Farming and Forestry, Water Conservancy, and Meteorology Sector in the System of Ownership by the Whole People

Year	Number of Staff, Members and Workers in the Forestry Sector (10,000 people)	As a Ratio of Staff Members and Workers in the National System of Ownership by the Whole People (%)
1952	4.2	2.1
1965	28.5	8.6
1975	23.8	6.3
1979	27.2	9.3
1980	26.9	8.3

3. Ratio of staff members and workers in forest industries nationally to staff members and workers in industrial enterprises nationally under the system of ownership by the whole people. See Table 3 for details on the ratio of staff members and workers in forest industrial enterprises nationally under a system of ownership by the whole people (including those engaged in felling, hauling and processing of timber) to staff members and workers in industrial enterprises under ownership of the whole people nationally.

Table 3. Ratio of Staff Members and Workers in Forest Industries Nationally to Staff Members and Workers in the Industrial Sector Under Ownership by the Whole People Nationally

Year	Number of Staff, Members and Workers in the Forestry Sector (10,000 people)	As a Ratio of State Members and Workers in the National System of Ownership by the Whole People (%)
1952	31.4	6.8
1977	41.4	5.6
1980	72.4	5.8
1975	101.4	4.1
1979	121.4	3.9
1980	126.2	3.9

Table 3 shows that though the number of staff members and workers in forest industries throughout the country increased fairly rapidly, growing 2.6-fold in 28 years or at an average 4.7 percent annual rate, their ratio to staff members and workers in industrial enterprises throughout the country under a system of ownership by the whole people gradually declined from 6.8 percent in 1952 to 3.9 percent in 1980.

Ratio of forestry workers on rural commune and brigade forest farms and on farms where felling and growing of trees is done, to workers in farming, forestry, animal husbandry, sideline occupations, and the fishing industry. At the end of 1980, China's rural communes and brigades operated more than 223,000 forest farms and more than 6,000 farms where felling and growing of trees was done. Comparison with figures for the end of 1975 shows more than 32,000 fewer forest farms and a doubling of farms doing both felling and growing of trees. Table 4 shows the ratio of forestry workers on commune and brigade forest farms and on farms doing both felling and growing, to workers in farming, forestry, animal husbandry, sideline occupations, and the fishing industry.

Table 4. Ratio of Workers on Commune and Brigade Forest Farms (and Farms Both Felling and Growing Trees) to Workers Engaged in Farming, Forestry, Animal Husbandry, Sideline Occupations, and the Fishing Industry Nationally

Year	Workers on Commune and Brigade Forest Farms (and on Farms Both Felling and Growing Trees) (10,000 workers)	As a Ratio of Workers in Farming, Forestry, Animal Husbandry, Sideline Occupations, and the Fishing Industry Nationally (%)
1975	273.4	0.93
1977	278.2	0.95
1978	249.0	0.83
1979	242.7	0.82
1980	201.3	0.67

Statistics for the number of workers engaged in forestry production are incomplete. The Table 4 numerical values are smaller than actual figures. However, it should be realized that the number of forestry workers in rural villages is very small, amounting to less than 1 percent of the national workforce engaged in farming, forestry, animal husbandry, sideline occupations, and the fishing industry and declining year by year. In 1980, it amounted to only 0.67 percent. This is one important reason why China's forestry has remained in a backward state for a long period of time, and is a cause for serious concern.

2. Gross Output Value of Forestry

The gross output value of forestry contains two parts. One is the gross output value of forestry in the agricultural sector, the forestry sector being termed the gross output value of forest operations. The second is the gross output value of forest industries within the industrial sector.

1. Ratio of the gross output value of forestry to the gross output value of industry and agriculture. During the period immediately following the founding of the People's Republic, output value of China's forestry was fairly high in proportion to gross output value of industry and agriculture. As the country's industrial and agricultural production expanded, the gross output value of forestry increased year by year until 1980 when it was 4.4 times what it had been in 1952. However, as a result of rapid development of China's industry and agriculture, forestry developed relatively slowly. As a result the gross output value of forestry as a ratio of the gross output value of industry and agriculture declined year by year until 1980 when it fell to 2.0 percent versus 4.02 percent in 1957 at the end of the "First Five-Year Plan," a decline of one-half. See Table 5 for details.

Table 5. Ratio of Gross Output Value of Forestry to National Gross Output Value of Industry and Agriculture

Year	Gross output Value of Forestry (100 million yuan)	As a Ratio of National Gross Output Value of Industry and Agriculture (%)
1957	49.9	4.02
1965	51.0	2.62
1975	96.2	2.18
1980	136.34	2.06

Note: Figuring of gross output value: Figured in terms of 1957 constant prices until 1970. Figured in terms of 1970 constant prices after 1971. The same applies hereinafter.

2. Gross output value of forest operations as a ratio of gross output value of agriculture nationally. Gross output value from forest operations has increased rapidly. Comparison of 1980 with 1949 shows a 30-fold increase in gross output value, or an annual 11.6 percent increase, which is almost again as

much as for agriculture as a whole. As a result, it rose year by year as a ratio of the gross output value of agriculture as a whole reaching 3.1 percent in 1980, which was five times more than in 1949. However, the speed of climb has slowed in recent years, and it has stabilized at around 3 percent. This shows a certain rise in the position of forestry in agriculture as a whole, but a continued fairly low level at the present time. See Table 6 for details.

Table 6. Ratio of Output Value From Forest Operations to Gross Output Value of Agriculture Nationally

Year	Gross Output Value of Forest Operations (100 million yuan)	As a Ratio of Gross Output Value of Agriculture Nationally (%)
1957	9.3	1.7
1965	12.0	2.0
1975	37.1	2.9
1980	49.7	3.1

3. Ratio of gross output value of forest industries to gross output value of industry. During the period immediately following the founding of the People's Republic, the gross output value of forest industries was fairly high in proportion to the gross output value of the country's industrial sector. For example, in 1952 it was 6.5 percent. However, subsequently when speed of forestry industries growth became lower than speed of growth of industry as a whole, its ratio to industry gradually declined until 1980 when it was only 1.7 percent, a more than two-thirds decline from 1957. See Table 7 for details.

Table 7. Ratio of Gross Output Value of Forest Industries to Gross Output Value of Industry for the Country as a Whole

Year	Gross Output Value of Forest Industries	As a Ratio of Gross Output Value of Industry for the Country as a Whole
1957	40.6	5.8
1965	39.9	2.9
1975	61.1	1.9
1980	86.2	1.7

3. Timber and Forestry Products Supplied the Country by the Forestry Industry

1. Amounts provided in 1981. National gross output of timber was 49.42 million cubic meters of which 38.33 million cubic meters, or 77.6 percent, was timber uniformly allocated by the state. Output of sawed lumber was 13.01 million cubic meters or 30.6 percent of the log output. Among output of man-made boards, plywood output amounted to 351,100 cubic meters, wood shavings board to 76,700 cubic meters, and fiberboard to 568,300 cubic meters. These three kinds of man-made board substituted for the use of 5.22 million cubic meters of logs. Principal chemical products of forest origin included 406,000

tons of rosin, 67,000 tons of turpentine, 40,000 tons of tannin extract, 1,000 tons of shellac, 23,000 tons of activated charcoal, and 90,000 tons of charcoal. Principal forest sideline products included 60,000 dan of raw lacquer, 13.08 million dan of tung oil seeds, 7,197,000 dan of tea oil seeds, 1,027,000 dan of Chinese chestnuts, 2.13 million dan of walnuts, 1.9 million dan of Chinese tallow tree seeds, 11,246,000 dan of rosin, 438,000 dan of coir fiber, and 386,000 dan of dried bamboo shoots. At present, though the timber and other forest products that forestry provides the country are still unable to satisfy needs, they play an important role in helping to build the national economy and in answering needs in the people's daily lives.

2. Percentage of state uniformly allocated timber. By state uniformly allocated timber is meant that portion of timber output that is uniformly allocated by the state. In the 32 years since the founding of the People's Republic, an average of 87.4 percent of timber has been uniformly allocated. During the 1950's the percentage was fairly high averaging more than 90 percent. It declined subsequently until the 1970's when it leveled off at between 80 and 90 percent. During the past 2 years, it has dropped below 80 percent. See Table 8 for details.

Table 8. Percentage of Timber Output Uniformly Allocated

Year	Amount of Uniformly Allocated Timber (10,000 m ³)	Percentage of Timber Output in Plan (%)
1952	1.146	91.31
1957	2.779	99.96
1965	3.273	82.28
1975	4.065	86.43
1980	4.149	77.42
1981	3.833	77.56

3. Timber consumption. On the basis of national timber output, each person consumed an average 0.022 cubic meters of timber in 1952, 0.043 cubic meters in 1957, 0.055 cubic meters in 1965, 0.051 cubic meters in 1975, 0.051 cubic meters in 1980, and 0.049 cubic meters in 1981. Within the amount of state uniformly allocated timber, the percentage of timber used in production has tended to rise year after year, and the amount of timber used in capital construction has tended to decline. Since the 1960's, rural commune and production brigade use of timber has generally stabilized at around 11 percent, which is again as much as during the 1950's. See Table 9 for details.

Table 9. Percentage of Timber Used Throughout the Country

Year	Timber Used in Production	Timber Used in Capital Construction	Timber Used by Rural Communes and Brigades
1953	54.9	41.1	4.0
1957	59.9	34.8	5.3
1965	63.0	25.3	11.7
1975	64.4	24.5	11.1
1980	63.6	23.6	12.8

Table 10. Output Value of Several Light Industrial Products That Use Wood as Their Principal Raw Material and Their Percentage of the Gross Output Value of Industries Under the Ministry of Light Industry

Year	Paper		Wooden Furniture			Wood Used in Daily Life		Wood Products Among Wood, Bamboo, Rattan, Coir, Grass and Willow Manufactures		
	Output Value (100 million yuan)	% of Light Industry Gross Output value	Output Value (100 million yuan)	% of Output Value of Furniture	% of Light Industry Output Value	Output Value (100 million yuan)	% of Light Industry Output Value	Output Value (100 million yuan)	% of Output Value of Above Goods	% of Light Industry Output Value
1978	49.83	6.23	9.04	83.5	1.13	3.51	0.44	-	-	-
1979	55.14	6.56	10.26	80.5	1.22	2.88	0.34	-	-	-
1980	58.41	6.08	12.62	75.9	1.31	-	-	2.04	51.9	0.21

4. Output Value of Light Industrial Products Using Timber As Their Principal Raw Material

China has a substantial number of light industrial products that use timber as a raw material. Examples include paper pulp, furniture, matches, and pencils, and their output value has become increasingly great. Table 10 presents only the output value during the past several years of paper making, wooden furniture, wooden articles used in daily life, and manufactures made from wood, bamboo, rattan, coir, grass, and willow, and the percentage of the gross output value of industry under the Ministry of Light Industry that they represent.

Table 10 shows the following: (1) Output value of the paper making industry is about 6 percent that of light industry. Within the paper making industry, the proportion of wood pulp to bamboo pulp was 28.9 percent in 1978, 28.0 percent in 1979, and 27.8 percent in 1980. The percentage of wood pulp in marketable paper pulp is greater. In 1978, it was 48.1 percent; in 1979, 49.7 percent; and in 1980, 52.7 percent. (2) Wooden furniture holds a decisive position in the furniture industry. As a result of the rapid expansion of steel furniture, the percentage of wooden furniture has declined during the past 3 years; nevertheless, its output value and absolute value have continued to climb year after year. (3) Though output value of industries making things used in daily life is not great and accounts for only a very small percentage of the gross output value of light industry, these products are necessities in the daily lives of the people that cannot be ignored.

5. Export of Forest and Related Products

China's export trade is closely related to its forestry. Among the 32 native and livestock products for which China held first place in world exports in 1980, 11 were forest products including rosin, raw lacquer, and Chinese parasol tree wood. Exports related to forestry included the following: (1) In the bamboo and wood category were more than 10 items including logs, mountain scholar tree wood [1472 2849 2606], Chinese parasol tree wood, spliced Chinese parasol tree board, bed boards, coffin boards, moso bamboo, hao bamboo [5548 4554], Lizhu [4713 4554], and zazhu [7177 4554]. (2) In the man-made board category were plywood, fiberboard, soft fiberboard, joined wood, sound insulation wood, bamboo plywood, plastic coated board, and hollow door boards. (3) In the forest chemical products category were rosin, turpentine, the fruit of the cubeb litsea tree, yellow camphor oil, fragrant camphor oil, lemon eucalyptus oil, eucalyptus leaf oil, cedar oil, pine oil, fennel oil, cassia oil, natural camphor, tannin extract, activated charcoal, and charcoal. (4) In the forest sideline products category were more than 20 items including raw lacquer, tung oil, Chinese gall nuts, pine nuts, coir fiber, bamboo shoots, mushrooms, black tree fungus, shanyecai [1472 6851 5475], walnuts, red dates, and various kinds of dried fruits and nuts. (5) In the spices and Chinese herbal medicines category were more than 10 items including star anise, pepper, cassia bark, benzoin, Sichuan pepper, bark of eucommia, bark of cork tree, bark of official magnolia, root bark of the tree peony, papaya, and fruit of Chinese magnoliavine. (6) In the furniture and jointed wood products category were sewing machine stands, wooden furniture, lacquered furniture, rosewood furniture, rattan furniture, camphor chests, wooden clothes trees, table tennis

Table 11. Status of Export of Forest and Related Products in 1981

Product	Kinds (Units)	Value of Exports		Percent of Total National Exports %
		\$10,000	10,000 yuan	
Total	153	66,121.80	117,485.21	3.16
Large bamboo items	12	2,252.40	1,002.06	0.11
Man-made Board	8	430.83	765.50	0.02
Forest chemicals	18	14,363.92	25,521.81	0.69
Forest sideline products	25	13,322.65	23,671.68	0.61
Spices and Chinese medicinal herbs	12	2,544.86	4,521.71	0.12
Furniture and joinery	12	5,889.77	10,461.91	0.28
Daily sundries made mostly from wood, bamboo, and rattan	13	13,848.37	24,605.78	0.66
Paper and paper manufactures made from wood pulp	53	13,469.00	23,931.72	0.61

Note: The foreign trade rate of exchange between dollars and renminbi in
1981 was 1:1.7768

wooden toys and other wooden manufactures. (7) Sundry goods for use in daily life made mostly of wood, bamboo and rattan, and willow manufactures included, willow ware, bamboo ware, toothpicks, popsicle sticks, pencils, matches, match sticks and match boxes. (8) Exports of paper and paper manufactures made mostly from wood pulp were even more numerous amounting to more than 50 items. Export figures for the foregoing exports related to forestry were substantial. According to incomplete statistics for 1981, approximately \$661,218,000, or more than 1.1 billion renminbi was gained. This was 3.6 percent of the total value of the country's exports. For details, see Table 11.

6. Profits and Tax Revenues From Forest Industrial Enterprises

Comparison of 1980 with 1952 shows a 3.2-fold increase in the amount of profits and tax revenues from forest industrial enterprises. During this same period, the increase for industrial enterprises in the country as a whole was 24.3-fold. Profits and tax revenues from forest enterprises as a percentage of the national total for industrial enterprises was 7.43 percent in 1952 and 0.99 percent in 1980 for a marked decline in the percentage. This shows that forest enterprise production lags far behind the development of production in the country's industrial enterprises as a whole. For details, see Table 12.

Table 12. Profits and Tax Revenues For the Country's Forest Enterprises as a Percentage of the Total for Industrial Enterprises in the Country as a Whole

Particulars	Units	1952	1957	1965	1975	1979	1980
		-	-	-	-	-	-
	100 mil-						
	lion						
Profits and tax revenues	yuan	2.78	4.89	5.44	3.09	7.83	8.98
% of nat'l indus. enterprises	%	7.13	1.25	1.76	0.87	0.91	0.99
Profits		2.49	3.78	3.42	2.02	4.09	5.31
% of nat'l indus. enterprises	%	8.80	4.75	1.58	0.56	0.71	0.91
Tax revenues		0.29	1.11	2.02	3.07	3.74	3.67
% of nat'l indus. enterprises	%	3.19	3.12	2.19	1.40	1.24	1.11

Note: National industrial enterprises means independent accounting industrial enterprises under the system of ownership by the whole people.

(Ministry of Forestry Forestry Economics Research
Institute Multipurpose Office)

Chinese Forestry Production Conditions

One of the main reasons why China's level of forestry production is fairly low, its afforestation survival rate not high, and its increase in timber output slow is the backwardness of forestry production conditions. Since liberation, definite changes have taken place in the country's forestry production conditions. General attention has been directed to afforestation, but an overwhelming majority of places in the country still rely on hand operations.

In timber production, major operations in stateowned forest regions such as felling, collecting, loading, and hauling have been mechanized. In collective forest regions, felling, collecting, and such operations are still done by hand. Forest region construction has not kept pace. Roads are few, making it difficult to get logging underway, and in forest regions where felling has begun, overcutting is done. Development of forestry production is hampered to a large extent by production conditions. A change in this state of affairs must await more capital construction to improve forestry production conditions.

AGRICULTURAL DOCUMENTS, LAWS AND REGULATIONS

[Original source pp 379-381]

State Council Notice on Approval and Forwarding of National Supply and Marketing Agency Report on Several Problems in the Current Agricultural Sideline Products Structure (28 July 1981)

[Text] During the past 2 years, the state has liberalized agricultural policies, increased procurement prices paid for major agricultural sideline products, and advanced development of agricultural production. The rural situation is very good. On 30 March this year, the CPC Central Committee and the State Council also issued a notice on active development of rural economic diversification, and it can be predicted that a situation of great development of economic diversification is about to begin. The commercial circulation sector must keep up closely with this new situation and strive to do a good job of purchasing and selling agricultural sideline products in order to give impetus to development of rural economic diversification.

As agricultural sideline industries increasingly develop, the work of procuring agricultural sideline products may be said, overall, to be good as well. However, it should be realized that in the procurement of agricultural sideline products, and particularly in the procurement of certain major industrial raw materials, export commodities, and materials used in production and construction, some places do not take due care. As a result, prices for some agricultural products rise too high and negotiated prices are overly high and overly broad. This causes damage to the procurement of certain important agricultural sideline products and fulfillment of allocation and transfer plans, which is bad for readjustment of the national economy and for maintenance of market price stability. Action should be taken to solve this problem.

During the current year, the State Council has successively approved and forwarded a report from the Aquatic Products Bureau, has issued a notice on strengthening sugar procurement, allocation work and strict control of sales, a notice on strengthening tea work, a decision on strengthening the management of pharmaceuticals, and has also approved and forwarded a report pertaining to live hog problems. All these have a bearing on the issue of agricultural product procurement. Now we will forward to you "Report on Several Problems in Current Agricultural Sideline Products Procurement" that the State Council has concurred in, and ask that you conscientiously study and implement it.

The busy season in agricultural sideline product procurement is at hand. All province, municipality, and autonomous region people's governments are to strengthen leadership, exercise supervision over all departments concerned, strive to do a good job in the procurement of agricultural sideline products, and assure fulfillment of outshipment tasks. In addition, as changing rural needs require, movement of industrial goods needed in daily life, of construction materials for civilian use, and of the agricultural means of production should be organized promptly to satisfy wants in rural production and daily life, to advance further the development of economic diversification, to assure stability of market prices, to enliven material exchanges between cities and the countryside, and to make new contributions.

Report on Several Problems in the Current Agricultural Sideline Products Structure (19 June 1981)

Since the Third Plenary Session of the 11th Party Central Committee, the Central Committee has corrected "leftist" mistakes, has adopted a series of major programs, policies, and measures, has stirred the enthusiasm of the broad masses of peasants, and has advanced development of marketable goods production. Peasant income has increased: life has improved further; markets have thrived and become lively, and the entire rural situation is very fine. As production has developed, procurement of agricultural sideline products has also been very good. In 1980 supply and marketing cooperative purchases of agricultural sideline products totaled 22 billion yuan, up 3.34 billion yuan or 17.9 percent from 1979 (allowing for price factors, the increase was 3.6 percent above the 1979 price). Amount of procurement of 25 of the 39 agricultural sideline products for which the supply and marketing cooperatives are responsible increased over 1979. The amount of procurement of many Category III agricultural sideline products also increased, and many traditional products that had not been seen for years began to appear in markets. But some problems also appeared during 1980 in procurement of agricultural sideline products. For example, procurement prices paid for some major agricultural sideline products in seriously short supply went out of control, and all jurisdictions hiked, either directly or in a disguised way, procurement prices for 15 different Category II agricultural sideline products, such price hikes running anywhere from 20 to 30 percent. Negotiated procurement prices paid for some Category III products were too high, some of them several times higher than they should have been. Procurement plans for flue-cured tobacco, bao bamboo [5548 4554], apples, rush mats, and star anise were not fulfilled, and in some cases outshipment plans were not fulfilled. Though plans were fulfilled for some things, a substantial portion of them had been obtained at negotiated prices or at premium prices. This had a bad effect on supplies of raw materials to light industry and on market price stability. Many reasons account for these problems. In addition to a reduction in the growing area of some things and a drop in output as a result of natural disasters, other major reasons were as follows: Some places and departments intervened to raise the net procurement price of some agricultural sideline products in seriously short supply in the market. We did not investigate and study sufficiently, so failure of work to keep pace also had a bearing. Thanks to the serious attention of governments at all levels, some of these problems have been solved, and some are in process of solution.

The broad masses of peasants enthusiastically support the Central Committee's further strengthening and perfecting agricultural production responsibility systems, particularly following the announcement of active development of rural economic diversification. The fine rural situation is bound to develop further, and economic diversification will be a future trend of development. The flow of goods must match development of agricultural production, and the work of supply and marketing cooperatives must keep pace. The cooperatives must make themselves a part of production and do everything possible to use production funds and material supply to support economic diversification, using procurement and marketing to advance expansion of agricultural sideline product production. With the development of production and an increase in goods, how to organize procurement and sales of agricultural sideline products will be an extremely strenuous task for us to face. In order to meet the new situation taking place in rural villages and focus on existing problems, let us report our views on current agricultural sideline product procurement as follows:

1. Adherence To a Policy of State Monopoly Procurement, Assigned Procurement, and Negotiated Procurement

For many years the central authorities have followed a policy of dividing agricultural sideline products into categories I, II, and III for procurement. This policy has been based on China's productivity situation and the importance to the national economy and the people's livelihood of various kinds of agricultural sideline products. A policy of monopoly procurement, assigned procurement and negotiated procurement of agricultural sideline products has been followed, and this has played a major role in promoting production, in assuring needs, and in stabilizing prices. This has been a fundamental policy in China's procurement of agricultural sideline products, and it is to continue to be carried out assiduously. Now some additional specific policies and management methods are to be formulated. In this task, the overall principles are to be taking the planned economy as the key link with market regulation being supplementary, concurrent concern for the interests of the country, collectives, and individuals, and coordination of production team self-determination, peasant initiative, and national economic plan requirements. There must be correct handling of the relationship between the state and peasants, between central and local jurisdictions, and between production and marketing sectors in order to help readjustment of the national economy, further develop production, and enliven the economy.

Category I cotton (including short fiber cotton) is a commodity that the State Council controls intensively and for which there is to be continued state monopoly procurement and monopoly marketing, supply and marketing cooperatives centrally procuring it and centrally distributing it. Cotton, homespun cotton yarn, and homespun cloth may not be sold in markets. No unit may exchange cotton yarn or cotton cloth for cotton. Supply and marketing cooperatives are to actively work out arrangements for exchange purchases of cotton retained by peasants. Increased prices and award sales are to continue to be carried on for excess procurement of cotton. Proportions to be retained locally are to remain unchanged. All jurisdictions are to fulfill outshipment tasks in accordance with state plan.

Assigned procurement of Category II products. The state has prescribed the sale of certain amounts of this category of goods for production units and individual commune members. After production units and individual commune members have assured fulfillment of stipulated sales to the state, all that remains may be freely disposed of, and it can be purchased and sold at negotiated prices. This category includes some important industrial raw materials, export goods and materials used in production and construction such as flue-cured tobacco, moso bamboo, bao bamboo, and important livestock products such as cowhides, wool, and goat hair. If needed, the state may take some of the surplus products remaining after production unit and individual commune member fulfillment of quotas. In such cases the state will provide appropriate bonuses for that portion of different goods sold to the state above plan requirements, bonuses depending on the supply situation for goods (including rural shortages of industrial goods) so as to stir peasant enthusiasm for production. Specific methods are to be determined by provinces, municipalities, and autonomous regions by suiting general methods to specific situations. Should price encouragement be required, approval of the State Council must be obtained. Tea procurement is to be done in accordance with the provisions of State Council Document 64 (1981). Control over Category II products is to be strengthened in accordance with the current division of labor stipulated by the State Council, departments in charge being responsible for administration and management.

Problems in setting base figures for certain important industrial raw materials and export goods among Category II products. In 1980, some provinces had good success with setting base procurement figures for some products. Those provinces that have already instituted base procurement figures should continue to implement them in accordance with provincial people's government regulations. They should also be sure to summarize experiences and gradually improve methods. Some provinces should run pilot projects for some kinds of goods. Inasmuch as this problem is a fairly complex one, and since circumstances vary from place to place, it is necessary to proceed from realities and without forcing uniformity, individual provinces, municipalities, and autonomous regions deciding how to proceed. No matter whether base procurement figures are set or not, state set procurement quotas must be assured fulfillment. The setting of base figures for outshipments and exports is to be decided through discussions between State Council departments responsible and individual provinces, municipalities, and autonomous regions. Outshipment base figures are outshipment quotas and are to be made a part of state plans and assured of fulfillment. Once quotas have been fulfilled, that portion retained locally may be disposed of locally in any way deemed appropriate.

Negotiated procurement and negotiated sale of Category III products is to continue. Dealings in this category of products should continue to be handled well and made lively in accordance with pertinent programs and policies. In order to assure supplies for export, for special needs, and for the needs of large cities of a small number of important kinds of goods in Category III, individual provinces, municipalities, and autonomous regions may refer to methods of managing Category II products to get control of certain sources of supply. Each jurisdiction should make its own decisions on specific goods.

2. Diligent Implementation of Agricultural Sideline Products Price Policies

In the procurement of agricultural sideline products, price policies and limits on control authorities must be rigorously implemented to assure the basic stability of market prices. State list prices must be strictly followed for Category I and Category II goods, and there can be no unauthorized raising of prices, payment of premium prices for overprocurement or subsidies above and beyond prices. So long as prices remain stable, directed and step-by-step readjustments may be made in prices that are genuinely out of line. Where prices are overly low and the contradiction between supply and demand is fairly pronounced for a small number of Category II goods such as cowhide, native breed sheep wool, and semi-fine wool, procurement prices should be raised appropriately. Following approval, procurement prices may be appropriately lowered on Category II goods for which supply exceeds demand and that have had slack sales and accumulated in inventory for a long period of time.

Control should be intensified over goods bought and sold at negotiated prices. The range and extent of negotiated prices is to be controlled; the proportion of goods traded at negotiated prices is to be reduced; and the amount of goods traded at negotiated prices is to be reduced. Action should be taken to lower the price of goods that had an overly high negotiated price last year. Once assigned procurement quotas have been fulfilled, negotiated procurement prices on Category II goods for which negotiated procurement and negotiated sale is permitted should be diligently controlled. In accordance with limitations on price control authority, departments in charge as well as people's governments in individual provinces, municipalities, and autonomous regions should stipulate the extent of negotiated prices or maximum and minimum limits on prices.

Negotiated procurement and negotiated sale prices for Category III products should follow the principles of concurrent concern for the interests of the state of producers, and of consumers, and should help promote production, enliven markets, and flatten out market prices. Prices arrived at through negotiation between buyers and sellers will generally be lower than prices for the same goods in local markets. Local authorities should control prices of Category III products. Prices of a small number of important kinds of goods of Category III should be controlled by provinces, municipalities, and autonomous regions who should set definite price limits. Administrative units have authority to set specific procurement and sale prices consistent with relevant regulations from higher authority, as well as the seasonal price differences, regional price differences, quality price differences for these goods, changes in prices for live goods, and reduced prices for frozen, flawed, remnant, and inferior quality goods.

3. Promotion of Contract Systems

Promotion of contract systems is one important method for expanding economic techniques in the exchange of commodities. Monopoly procurement, assigned procurement and negotiated procurement of products should all be handled through discussion and signing of contracts between procurement units in charge and production units. Procurement and sales contracts and advance procurement contracts found workable and effective in the past should continue to be promoted.

Places having requisite conditions for signing combination procurement and sales contracts should actively set up pilot projects for their promotion, procurement units lending support to production. Quantities and quality of goods sold to the state by material supply and production units should be set in contracts. Once a contract has been signed, industrial and commercial administrative departments authenticate it and the local people's government bears responsibility for supervising it.

4. Strengthening Agricultural Sideline Products Market Control

Except for Category II products the marketing of which is not permitted by state regulations, all other products may be sent to market once product sales quotas to the state have been fulfilled. Specific ways in which this is done are to be decided on the basis of specific circumstances by province, municipality, and autonomous region people's governments.

State farms (forest farms, livestock farms, tea farms, and fruit orchards) are to carry out national unified policies and unified plans. So long as fulfillment of state quotas is assured, they may market products as they see fit. Rural commune and brigade collectives may deal in surpluses, or in Category II and Category III products that the state has not bought, from their own commune and brigades or from neighboring communes and brigades once state procurement quotas have been fulfilled.

Official organizations, official bodies, armed forces units, schools, enterprises, institutions, and industrial and commercial units in marketing areas who go to production areas to buy agricultural sideline products permitted to be marketed must register with local industrial and commercial administrative departments. Following approval, a unified distribution of sources of supply will be made by administrative units in charge, and pertinent local regulations must be obeyed. Resolute action must be taken to smash profiteering, speculation, and smuggling activities, to crack down on black market transactions, to resolutely halt the jacking up of prices, and to corner markets.

5. Good Organization of Agricultural Sideline Product Procurement Work

Guaranteeing fulfillment and overfulfillment of this year's state prescribed agricultural sideline product procurement and outshipment plans is an important aspect of state strengthening of centralized uniformity in the macroeconomy. People's governments at all levels are to strengthen leadership of agricultural sideline product procurement work, indoctrinate the broad masses of cadres and people in a heightened national sense, in active production of products needed by the state, and in striving to fulfill quotas to be sold to the state. They should supervise and urge units concerned to strengthen their concepts of the overall situation, strictly carry out all party and state policies, and resolutely fulfill plans handed down by the state for products to be supplied to the state and for export. All units concerned should cooperate closely in a common effort to do a good job in procurement, shipment, supplying funds, and safety.

Under leadership of the local government, supply and marketing cooperatives at all levels are to strive to do a good job of procurement and outshipment of agricultural sideline products. They are to actively meet the new situation that

has taken place following institution of various forms of production responsibility systems, improve procurement practices, increase the number of procurement outlet points, increase the number of procurement personnel, and improve final settlement methods. They should purchase the agricultural sideline products that should be purchased to meet the country's needs and ship them out. They should particularly do everything possible to buy more of the raw materials used by light industry the supply of which is inadequate in order to assure the indispensable requirements of industrial production. In order to safeguard production and regulate supply and demand of those goods for which supplies temporarily exceed demand, new uses must be found and sales expanded. The general supply and marketing cooperatives and supply and marketing cooperatives in each province, municipality, and autonomous region must provide necessary support with funds, depositing appropriate amounts with units doing business. For a small number of products for which supply has exceeded demand for a long period of time, once everything possible has been done, production should be appropriately adjusted. Until such time as everything possible has been done, units dealing in such products may not arbitrarily reduce or suspend their procurement.

Right now all the preparatory work attending the busy season in agricultural sideline procurement must be done actively. Supply and marketing cooperatives at all levels should strengthen leadership, act at once, take a firm hold on the training of procurement personnel, actively prepare materials and data, do a good job of repairing equipment, machinery, and vehicles, and take firm hold of this year's busy season procurement work.

If the foregoing report is in order, please approve and forward it for implementation in all jurisdictions.

Attachment

Classification of Category I and Category II Agricultural Sideline Products Under Control of the General Supply and Marketing Cooperatives

Category I. One item.

Cotton (including short fiber cotton)

Category II. 39 items.

Jute and ambari hemp, ramie, flue-cured tobacco, mulberry silkworm cocoons, tussah silkworm cocoons, tea, cowhides, sheepskin, goat skin, kid leather, lambskin, huyang sheepskin, wood, goat hair, cashmere, feathers, hog casings, goat casings, sheep casings, hog bristles, moso bamboo, hao bamboo, raw lacquer, sun-cured tobacco, reed mats, coir fiber, charcoal, apples, citrus fruit, red dates, day lilies, edible black tree fungus, preserved kohlrabi, star anise, grass mates, hemp, honey, native paper, and plow oxen.

State Council Notice on Strictly Controlling Rural Work Force Entry Into Cities to Work and Conversion of Agricultural Population to Non-agricultural Population (30 December 1981)

[Original source pp 389-390]

[Text] In recent years, the rural labor force used in enterprises and public agencies, as well as the rural population that has become a non-rural population has been very great. Statistics show that as of the end of 1980 a total of 9.31 million people (exclusive of permanently hired workers) from the rural labor force were being used in one way or another in units under the system of ownership by the whole people. Between 1978 and 1980, the non-agricultural population increased by 6 million people. These were the several years since the founding of the People's Republic when the non-agricultural population increased substantially. Among the increase in the non-agricultural population, a substantial portion had entered through unethical means such as "going through the back door" or making a breach. The great increase in non-agricultural population is not in keeping with the current capability of China's agriculture to provide commodity grain and non-staple foods, nor the capability of cities to shoulder burdens. This is a major issue bearing on the country's overall circumstances, and unless attention is given to the strengthening of controls, it may impair future readjustment of the national economy and solution to urban and town employment problems. All jurisdictions and all sectors are to implement diligently all of the party's rural policies, strive to develop the rural economy, and channel the surplus rural labor force into rural economic diversification instead of crowding into cities. In addition, effective action is to be taken to control strictly the entry of rural work forces into cities to work and conversion of the agricultural population into non-agricultural population. The following notice has been issued for this purpose.

1. Strict Limitations on Recruitment of Rural Workers

People's governments in all provinces, municipalities, and autonomous regions are to strengthen centralized control over the recruitment of rural labor, examination and approval to be done by a single government person in charge "with a stroke of the pen," with no involvement of numerous agencies. When departments in the State Council need to recruit rural workers, or when they want to convert temporary workers, contract workers, or people working as part-time peasants and part-time workers to permanent staff members or workers, they must receive approval from the State Council.

When staff members or workers are increased in accordance with state plan in the four fields of underground mining, field prospecting, the felling of forests, and salt industry production, young people awaiting employment in cities and towns in mining areas, in forest areas, or in units concerned must be hired first. When hirings do not fill needs, rural workers may be hired subject to approval by provincial, municipal, or autonomous region people's governments. Without approval, positively no other units may hire rural workers.

The provisions of Guofa Document No 104 (1978) must be strictly carried out with regard to retired workers or workers who have resigned or have been discharged who are living in rural villages. Regulations must be followed when a child of a retired worker, or a worker who has resigned or has been discharged and is living in the country is to be hired. Hirings must be in accordance with hiring regulations; if they are not, the hiring is not to be allowed.

When urban and town units under the system of ownership by the whole people are to use temporary workers in accordance with plan, they are to hire city and town work forces. Rural units under the system of ownership by the whole people must hire temporary workers in rural areas, and they must request approval for hirings from provincial, municipal, or autonomous region people's governments. Limitations on authority to approve the hiring of temporary rural workers to meet emergency situations (such as providing disaster relief or effecting rescues) are to be formulated by provincial, municipal, and autonomous region people's governments. When temporary workers are used, contracts are to be signed, and when the contract period is up, the temporary workers are to be discharged. If a contract is to be continued in force, approval for renewal is to be sought.

In no case may city and town units under the system of collective ownership hire peasants as staff members and workers (including as temporary workers). City and town technical schools may not enroll students from rural areas.

When a surplus rural labor force results from state takeovers of land for construction, arrangements should be made for them to help production teams develop various activities such as forestry, animal husbandry, sideline occupations or the fishing industry for the most part, or else to run industrial sideline occupations of a collective nature. When it is truly necessary to hire a small number of peasants as workers, approval must be received from provincial, municipal, or autonomous region people's governments.

Use of civilian laborers is to be controlled. In principle, civilian laborers are not to be used on most projects. Their use on large projects requiring movement of much earth and stone such as railroads, highways, oil and gas lines, and water conservancy construction is to be approved by provincial, municipal, or autonomous region people's governments. A certain number of civilian laborers from the surrounding area may be used in a planned way, but once the project has been completed, they are to be discharged forthwith and not transferred to a new construction area.

2. Diligent Checking of Enterprise and Public Agency Use of Rural Labor Forces

All jurisdictions and sectors are to check and remove workers from rural villages hired outside of plan in accordance with "Methods For Checking and Reducing

the Use of Workers Outside Plan," which was approved and sent to the State Planning Commission by State Council Document No 108 (1979). They should do diligent ideological work and mobilize workers to return to rural villages to engage in agricultural production. They may not be transferred or borrowed among units. Temporary workers from rural villages used by closed and suspended enterprises, and in units that have halted or slowed down construction, are all to be dismissed and sent back to the countryside. No promises are to be made at the time of dismissal. No unit may enlarge the use of rural work forces without approval of provincial, municipal, or autonomous region people's governments.

Temporary workers, contract workers, personnel working part-time as peasants and part-time as workers, and various kinds of vocational personnel used in rural villages who receive various kinds of fees, expenses, wages and subsidies from country level departments in charge and rural people's communes are to be conscientiously checked and reorganized. Unnecessary personnel are to be promptly dismissed, and those remaining may not be converted to permanent national staff members or workers or non-agricultural population. All vocational departments having responsibility are to give active support and coordinate with local jurisdictions to do a good job in common in this regard.

Where there is a general lack of sufficient work to do in construction units and large numbers of personnel remain in enforced idleness, checking upon and reorganizing rural construction teams and hauling teams that have entered cities is to be carried out and every effort made to mobilize them to return to rural villages to engage in agricultural production. Henceforth, city and town unit use of rural construction teams and hauling teams who are brought into cities to contract project and hauling jobs must be approved by province, municipal, or autonomous region people's governments. Each province, municipality, and autonomous region is to appoint a department in charge of managing this work and formulate concrete management methods.

3. Strengthening Residence Registration and Food Controls

Public security organizations at all levels are to handle problems attending removal of residence registrations strictly in accordance with "Ministry of Public Security Regulations on the Handling of Residence Removals" as approved and forwarded with State Council Document No 140 (1977), and pertinent regulations. Movements of rural population into cities and towns is to be taken strictly in hand. Changes in residence are to be handled centrally by public security organizations, and no other units or individuals may make decisions of their own accord or make reviews and approvals of their own accord. Food departments are to control strictly agricultural population conversions into non-agricultural population in accordance with policy regulations, no commodity grain being supplied to those not in conformity with regulations. Entry into cities of the families of military cadres are to be ruled on by the General Political Department in the spirit of this notice.

All jurisdictions are to check residence registrations and compliance with food controls and policies on hiring of staff members and workers once annually. When ways of doing things not in conformity with policy regulations are found,

they are to be corrected within a limited period of time. If they are not corrected in time, food departments have authority to refuse to provide fund. Conduct in contravention of national policies such as unethical practices of practicing favoritism, resorting to deception and "going through the back door" are to be dealt with severely, and serious violators are to be subject to disciplinary action.

If it is necessary to handle matters flexibly in minority nationality areas because of special circumstances, autonomous region people's governments should make specific regulations and notify the State Council for examination and approval.

Ministry of Food and State Price Bureau Notice on Problems Relevant to Negotiated Prices for Grain and Oils (20 March 1981)

[Original source p 398]

Following notification of the State Council and request for approval, notice is provided below of problems relating to negotiated prices for grain and oils.

1. Negotiated prices for grain and oils are to follow the market and be slightly lower than market price. For some varieties, the price level may correspond to the excess procurement price, and for some varieties, it may be slightly higher than the excess procurement price. It is not permitted to raise the country fair price of grain and oils because of procurement at negotiated prices.

2. In particular, the negotiated market price for grain and oil should also follow the market and be slightly lower than market price, but reasonable seasonal price differences may be maintained as circumstances require. For city and town residents, the extent of seasonal price differences for grain and oil should be within 10-15 percent and be controlled by tailoring general methods to specific situations. In some places, the extent of seasonal price rises for grain and oils in country fairs is not great, so seasonal differences in price in negotiated sales should also be somewhat less. In some places the seasonal rise in country fair prices of grain and oils is more, so seasonal differences in price in negotiated sales should also be somewhat more. If country fair prices rise excessively in some places, state negotiated sale prices should not rise along with them. Because state control of negotiated prices for grain and oils is limited in some places and the state is powerless to expand supplies, cornering of markets and illegally buying up goods is to be guarded against, and such actions are to be reported to grain departments at once, and they are to devise ways in which to adjust negotiated prices of grain. Specific methods for controlling seasonal price fluctuations are to be determined by provincial, municipal, and autonomous region people's governments.

3. Dealings in grain and oil procurement and sales at negotiated prices are to be centrally handled by state grain departments. When production teams have not fulfilled state assigned procurement and overprocurement quotas for grain and oils, they may not market or sell grain and oils at negotiated prices, nor may they sell grain and oils in country fair markets to individuals. Except for market town beverage industries (including registered individual households) as well as those with legitimate needs approved by authorities concerned to purchase grain and oils in country fair markets, no other official organization, military unit, official body, school, enterprise (including commune and brigade

enterprises), or public agency may buy grain and oils in country fair markets or communes and brigades. It is forbidden to buy or sell grain and oil coupons.

On the problem of management of grain and oil country fair trade, pertinent regulations contained in the State Council's Zhongfa Document 41 (1979), "notice approving and forwarding Ministry of Commerce 'Report on the Conference of National Grain Bureau Directors'" are to be carried out.

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